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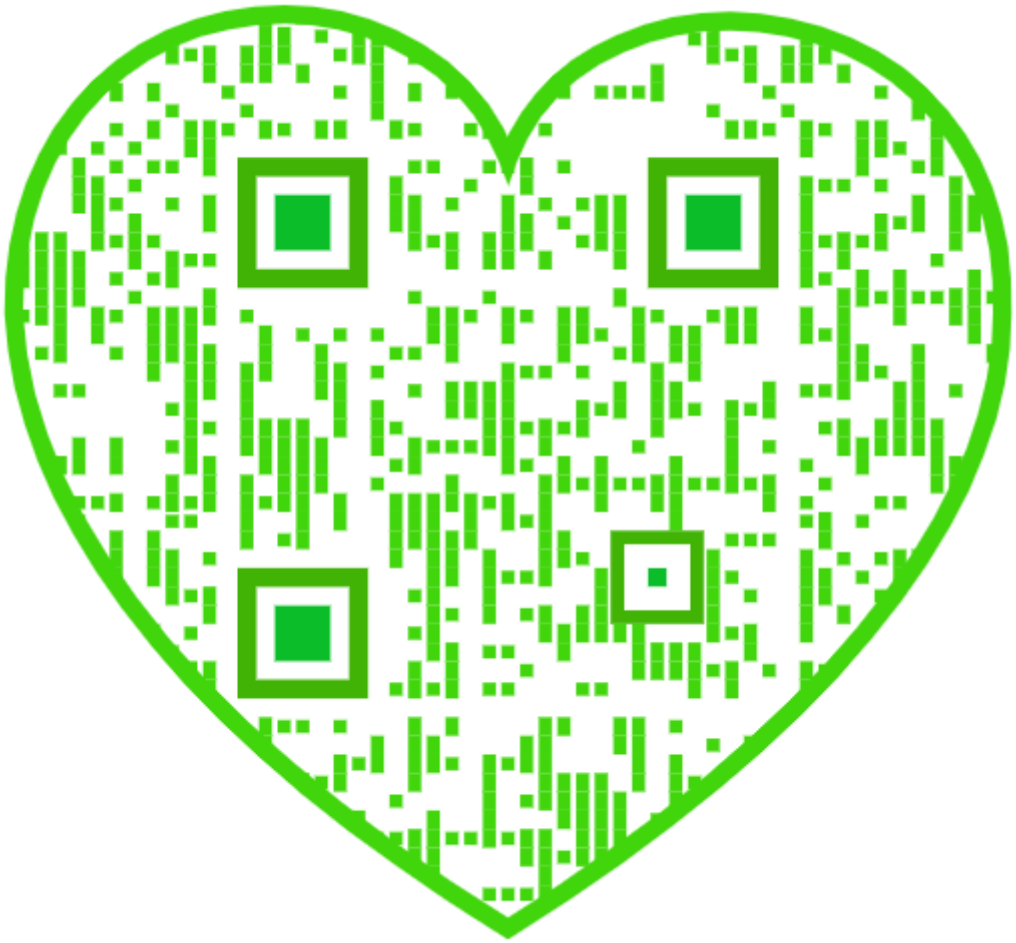

SEATING OF THE NEW THEATRE

Probably no opera house or theatre in the world ever had its artistic taste and comfort more fully considered in the selection of seating, than has The New Theatre. All that time and skill can produce has been worked out by the promoters, architects and manufacturers of these special chairs.

The ventilated standards, the full spring seats and rounded backs, together with the golden woven figure in the backs, indicating not only the row and number of seat, but each section is an innovation which is bound to be appreciated by theatre and opera patrons. Another new feature for the theatre and opera patron to be considered in these most modern chairs, is the receptacle at the side of each seat for the accommodation of opera glasses, programmes, etc.

The American Seating Company has made a study of everything in the seating line for public buildings throughout the world, and in their salesrooms at 19 West Eighteenth street, New York, N. Y.; 215 Wabash avenue, Chicago, Ill.; 70 Franklin street, Boston, Mass., and 1235 Arch street, Philadelphia, Pa., can be seen the latest products of seats for public buildings, and a thorough inspection is always invited by those who are interested in such work.

As comfort vies with the show in promoting the pleasure and instruction of the attendant at theatres and operas, the American Seating Company is constantly at work to accomplish and carry out the principles of artistic effect and, most of all, solid comfort.

G. Albert Lansbaugh, architect, announced on November 1 the dissolution of his association with Mr. Joseph, and will retain the offices in the M. A. Gunst building, Third and Mission streets, San Francisco, California.

Warren & Welton, architects, have removed to new and enlarged quarters, 1607-11 Empire building, Birmingham, Ala.

A visit to the box office of the first class theatres throughout the country would show a surprising lack of uniform systems in the arrangements for handling the tickets for the day's performance or the advance sale.

This is largely due to the fact that when the theatre is building, the box office furnishings are given very little thought until the theatre is ready to open, when the owners, having spent more money than they intended, are apt to use a makeshift of some kind for holding the tickets.

This shows a lack of system which is all the more surprising when the needs of this part of the theatre are understood. The treasurer of a first-class theatre playing a big success, will handle tickets representing many thousands of dollars, and when the advance sale is large, he must work quickly and accurately, as every ticket must be accounted for when the time comes to settle with the manager of the attraction playing the theatre.

The suggestion of Mr. George Audie, treasurer of the Lyceum Theatre, New York City, to Mr. William Camph, was responsible for the invention of a ticket rack that is now called "The Lyceum System," and this rack has been installed in a number of theatres, among which are the Lyceum, Gaiety, Astor, New Theatre, in New York City; Keith's Theatre, Boston, and the Academy of Music, Brooklyn. In all of these theatres, the rack is giving satisfaction.

This invention consists of a cabinet adapted to serve in box office or other analogous situations for holding admission tickets to be sold. Tickets for a number of successive performances may be held and conveniently presented, permitting the ticket seller to quickly and easily find the ticket corresponding to the seat selected by the buyer from the diagram.

By this system the tickets for a performance are held in a vertical tray, which is divided according to the number of sections in the theatre, and each section is divided according to the number of rows of seats. The trays for a number of performances, for example: six nights and two matinees, making eight in all, are held in a movable frame, which works the same as an ordinary window-sash and can be pushed up at will, bringing into view eight more boxes, holding the advance tickets for another week. By this means, four weeks' advance tickets are held in a small, compact and convenient space, and as the tickets for each performance are in individual trays, the ticket seller may remove the tray for any performance and place it alongside the box office window, and sell direct from the box for the current performance.

In addition to the above, another cabinet was designed to further simplify the workings of the box office. This is a cabinet the upper portion of which is arranged to hold the tickets in bundles, with a separate compartment for each division in price. This arrangement will take an additional four weeks, and when the sale is over four weeks in advance, as sometimes happens, the tickets are easily handled.

The lower portion of this cabinet is divided into five drawers which are convenient for stationery and other things.

The only thing to complete the box office equipment is a diagram rack; that is, a plan of the seating of the theatre so arranged that each ticket is in a separate compartment by itself: so that, if there are ten seats in one row and thirteen in the next, they would appear so on the rack. This enables the treasurer to "dress" the house when the sale is not large, and so scatter the people that they apparently fill the theatre while in reality there may be only "half a house."

Mr. Architect—Mr. Builder—Mr. Manager

A Phone Call will bring our Expert to Demonstrate

THE NEW IMPROVED ROTARY SYSTEM
OF BOX OFFICE TICKET RACKS

MOST PRACTICAL AND COMPACT EQUIPMENT EVER BUILT
ESPECIALLY DESIGNED TO MEET REQUIREMENTS OF YOUR HOUSE
INDIVIDUAL DAY SALE METAL BOXES

SIEDLE STUDIOS

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WILL SUBMIT LIST OF NEWEST THEATRES THAT HAVE ADOPTED OUR SYSTEM

The brickmaker's ideal in the past has been a brick of a single size and shape, a surface of the proverbial Yankee "slickness," and a color like a firecracker. And the ideal of the bricklayer has been to arrange these uninteresting units in a uniformly monotonous manner, concealing the headers by clipping and suppressing the joints as much as was humanly possible. The aim seemed to be to produce a brick wall that should be as smooth as a billiard ball and as interesting as a piece of tin painted a dull uniform red.

America is rapidly awakening, however, to the realization that such an ideal is absolutely devoid of true art. Such great architects as H. H. Richardson, Charles F. McKim and Stanford White have laid their transforming touch upon the brickwork of their day, and have made it blossom forth with all the beauty, grace and interest of the medieval masterpieces. The more artistic of our people have awakened to the wonderful possibilities which have so long lain dormant in our brickwork, and a genuine revival of craftsmanship in brickwork is under way.

One of the most notable examples of interesting modern brickwork is the Blair House at Oyster Bay, L. I., by Carrere & Hastings, architects, where tapestry brick has been used with rare effect in the development of true art in brickwork. "In this example the bricks are a reproduction in size and color of the brick used in the Baths of Titus in Rome, A.D. 80. In the pattern work three sizes of brick have been used, all multiples of a single unit, and three blending colors. The result is exceedingly rich and harmonious and admirably structural as well as artistic, for the ornament thus becomes an integral part of the wall and not a mere veneer."

The house of John R. McLean in Washington, D. C., by John Russel Pope, architect, is also referred to as another fine example of what can be done with "tapestry" brick, in producing fine artistic effects.

J. Parker B. Fiske, S. B., the editor of the book, has supplemented Mr. Bragdon's paper by some interesting and valuable chapters entitled respectivly, "Tapestry Brick," "The Cost and Advantages of Using Brick" and "Bonds and Mortar Joints."

The following quotation from one of these, chapters gives in a few words some idea of the latest and highest development in the art of brick making:

"A wall built of 'tapestry' brick shows the soft shades and delicate tones of a fine old Persian rug translated into the unfading permanency of burned clay. It has no glaring high lights, no pronounced contrasts. The colors of 'tapestry' brick are soft and rich. Starting from Indian red, they run through coppers, olive greens and purple browns to deep blue; another group, showing a light brownish gray, running into cream and coffee shades, deep russets and even tobacco brown, giving the mass the effect of old ivory; also rich old buffs, ranging from a soft, delicate chamois color to a deep golden brown."

The publishers of this book have performed a true service to both the architect and the layman in the data which they furnish in the chapter, entitled "The Cost and Advantages of Using Brick." To the prospective builder the question of comparative cost of frame, brick or concrete construction is sure to present itself, and there has been little or no data in accurate or convenient form for reference until the publication of this book.

In the closing chapter, entitled "Bonds and Mortar Joints, Their Influence on Brickwork," the various methods of assembling the brick in the wall and the best size and finish of mortar joints, all to bring out the highest degree of latent potentialities in brick construction, is clearly set forth with diagrams and photographs, and will be of immense assistance to designers of brickwork.

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THE EMBROIDERIES FOR THE CURTAINS, DRAPERIES, SEATS ETC. IN THE NEW THEATRE REPRESENT CHARACTERISTIC WORK OF THE ABOVE CONCERN

This paper forms the leading chapter in an unusually attractive book, entitled "Tapestry Brickwork," issued by Fiske & Co., Inc., of Boston and New York.

Of course one is coming to realize that the day of the plain red brick wall is nearly over, but it is not, perhaps, well understood how vital an influence is exercised on the aesthetic side of architecture by both the brick itself and the manner in which it is arranged in the wall.

Mr. Bragdon's paper is of great service in pointing out just what position brick has held as a building material all through the past ages and in emphasizing the fact that in the hands of a real artist it is capable of producing the most charming effects that fall within the scope of the architect. Such buildings as the Colony Club or the Lotos Club in New York, or the McLean House in Washington—to mention a few of the examples selected by Mr. Bragdon—are sufficient to illustrate this truth.

The artistic use of brick is, however, far from an American innovation, as one quickly realizes by a perusal of Mr. Bragdon's paper. Clearly set forth as the inspiration for the best which we now have in this country, are revealed in these pages the superb achievements in brickwork of the most venerable examples of Asiatic architecture and of almost every country of Europe whose buildings have aroused the admiration of the centuries.

Thus the newer forms of brickwork in this country are but a return to the triumphs of architectural skill found in the ruins of Babylon and of Ancient Rome, and in the buildings of medieval Italy, Persia, Normandy, France and England. Mr. Bragdon says the prototype of our most recent development in the evolution of artistic brickwork "was paralleled in the city gates of ancient Babylon with an art and an understanding which we have not approached. In Persia," he says, "Mohammedanism developed a distinctive and altogether wonderful brick architecture, in which the brick wall was often made to perform the function of a matrix, or setting for marvelous glazed and colored tiles. It remained for the Romans to bring the manufacture and the use of burnt clay to a point little short of perfection, and to develop, with brick as a basis or skeleton, a type of building construction so admirable, so abounding in practical advantages and esthetic potentialities, that even in this age of steel we are beginning to revert to it where permanence and monumental character are desired." During the middle ages, in Italy, there arose a brick and terra-cotta architecture, which, during the early Renaissance, "flowered into a style as remarkable for its elegance and impromptu grace as was the Roman for power and ponderosity."

Up to a few years ago there was nothing worthy of the name of brick architecture in the United States excepting, perhaps, the architecture of the Colonial period, which was an echo of the architecture of the Georgian period in England.

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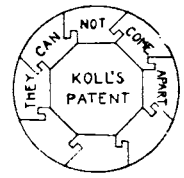

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CLAUDE L. HAGEN

TECHNICAL DIRECTOR

CONSULTED

THE NEW THEATRE
NEW YORK

INVENTOR AND DESIGNER OF

THE STAGE EQUIPMENT USED IN THE NEW THEATRE

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from Syria in the Eleventh Century and still in an excellent condition. Oil of cedar distilled from the wood was used to preserve books and papyri from dampness and moths, thus the particular virtue for which cedar is to-day most valued is by no means a recent discovery, having been known more than two thousand years ago.

"Coming down to modern times and to our own country, we find several kinds of trees designated "Cedars." There is the white cedar formerly used for paving blocks in city streets, also for fence posts, and at one time very plentiful in Northern Michigan; there is, further, a so-called "red" cedar in Oregon and Washington which grows to a prodigious size and is valued as a timber for its strength and power to resist rot, but these woods do not possess either the color or the fragrance of the red cedar to which this article refers. It is in the mountainous part of Tennessee that the red cedar is seen at its best. The early settlers in that State built their homes and cabins of cedar logs, which seem proof against the elements, regardless of years. Formerly, no well-constructed Southern home was complete without cedar floors in the kitchen and porches. An avenue of stately cedars at the "Hermitage" (the house of President Jackson), near Nashville, leads from the road to the dwelling, shading many pilgrims who go thither to do homage at the shrine of greatness; and as one stands on the cloud-hung peak of Lookout Mountain with its peaceful cedars, it is hard to realize that its prevailing quiet was ever disturbed by the sound of cannon and the horrors of war.

"In recent times old buildings have been depleted of their cedar to satisfy the demand of commerce. Much of it has journeyed to foreign lands, especially Germany, only to return to us in the form of lead pencils. Farmers about Murfreesboro, Tennessee, seem to have been holding a fortune for many years without realizing it. A recent report from that place states that the American Pencil Company has paid the farmers of that section more than two hundred thousand dollars in the past year for old fence rails and log huts on their farms. In one case a farmer received $15,000 for the old rails on his farm, after he had offered to sell the entire farm, rails and all, for $8,000. He now has enough to put up new buildings, modern fences, and still have several thousand dollars in the bank besides keeping his farm. Many sales of old rails have been reported from one thousand to ten thousand dollars, and frequently old log cabins have brought one thousand dollars.

"The cedar timber in the Cumberland Mountains is becoming exceeding scarce, and the pencil companies have resorted to old timber to meet their demands.

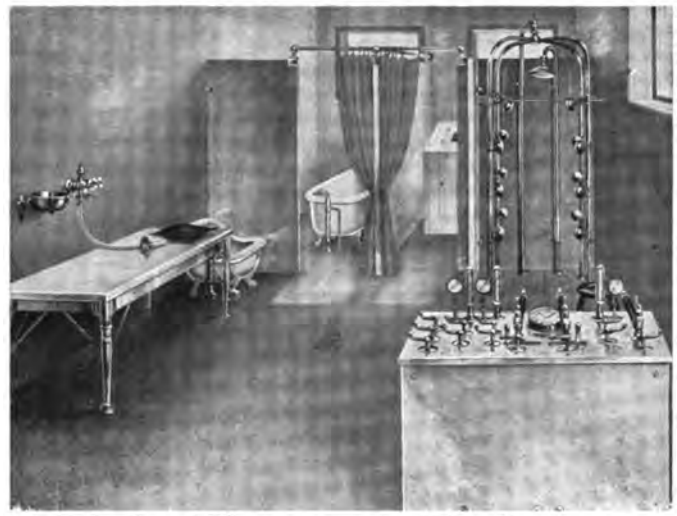
"The red cedars are not by any means large trees; many of them appear mere shrubs from the fact that limbs begin to shoot out from the trunk immediately above the ground, especially in the younger trees. In the course of years, however, the lower branches wither and drop away, leaving only the crown.

"The numerous branches cause the many knots that are seen in every cedar board; it is, in fact, an impossibility to get a perfectly "clear" piece of cedar even a few inches square; furthermore, such a piece would be of little value for anything where the fragrance of the cedar is desired, as it is these numerous knots that contain most of the oil of cedar, which produces this fragrance and without which cedar would be practically odorless.

"The fragrance is permanent, it is always in evidence, no matter how old the wood, and it is that which gives the wood its value for making wardrobes and cedar chests in which to put away clothing and furs, as moths will not gather where there is an odor of red cedar."

MODERN BRICKWORK

It is both interesting and instructive to read the scholarly paper, "Artistic Brickwork: Its Achievements and Possibilities," by Claude Bragdon, F.A.I.A.



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The NATURO Idea

Considers the Water Closet as more than merely a convenience for stooling, the posture at stool, it is now conceded, having much to do with some very common ailments not usually attributed to that cause.

Catalog "C" tells *how* and *why*.

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were at the same time physicists who understood scientifically the relation between dimensions and acoustics and the reflection of sound waves, whereas the modern builder has a tendency to work only empirically.

"The ground plan of the building, the distance apart of the walls, the height and width of the ceilings and the kind and number of projections all have a great influence upon the free development of the sound waves, and very slight alteration will produce great improvement or the contrary in the acoustic properties of a given room. Physical researches with the help of a tuning fork with which the sound waves can be measured show that the full rows of seats in a theater auditorium absorb .96 of 1 per cent. of sound waves, a carpet .20 to .30 of 1 per cent., wall panelling .06 of 1 per cent. and glass surfaces .002 of 1 per cent. The wood paneled glass coverings on ceilings which one finds in halls with overhead lighting, reflect almost the entire volume of sound, thereby giving hyper-acoustics, which greatly damage the effect in a public hall."

This argument goes to show that the problem of acoustics is left largely to the decorator even in buildings that are built with a specific acoustic purpose in view, and what is true of theater auditoriums is increasingly true of hotels, large offices and other semi-public buildings. In these latter buildings, however, the problem assumes a different phase, in that the absence of reverberation is required, while at the same time the carrying power of sound must also be largely eliminated.

A decorator in a large Canadian city was called upon recently regarding the acoustic properties of the city magistrate's court room. The formation of the room and the high walls and expansive windows rendered even a whispered conversation a serious annoyance to the presiding magistrate, while a loud tone echoed and re-echoed throughout the room in a peculiarly irritating manner. After considerable experimenting the room was rendered practically satisfactory by draping the entire wall surface, exclusive of windows, with heavy velours hung in folds from the cornice to the top of the wainscot.—*Upholsterer.*

ABOUT RED CEDAR

The Roos Manufacturing Company, of Chicago, manufacturers of utility boxes, cedar chests, screens, curtain poles, etc., have issued recently an attractive little brochure regarding the history and usage of cedar. The booklet is entitled "About Red Cedar." The subject-matter in part follows:

"Cedar is a name applied to a number of "Conifers" or evergreen trees, and is probably the most noted of this class. In ancient and Biblical history we read of the famous Cedars of Lebanon that grew in the Lebanon mountain range of Syria. These trees, on account of their beauty, stateliness and strength, were a favorite subject with poets and painters and were employed in the writings of that day as a symbol of power, prosperity and longevity; the Arabs regarding the tree as endowed with perpetual life and enabled to guard itself against the action of the elements. Cedars have been discovered in the Lebanon range having a "spread" of ninety-six feet, or considerable more than their height, and with foliage exceeding dense and interwoven. The cedars of these mountains are gradually becoming extinct, as in the last two or three hundred years the number has largely decreased, but the tree is cultivated in Europe as an ornament, being grown in gardens and parks. The wood of this famous tree is reddish-white in color and fragrant, but not nearly to such an extent as the American red cedar.

"Cedar timbers were used by the ancients in the building of fortifications and temples, and later, in the Middle Ages, in the construction of churches; a notable example of its durability is the Cathedral of Cordova, Spain, whose rafters are of cedar brought

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THE NEW THEATRE

The Acme of Modern Theatre Construction

Nothing but the best materials for the purpose were approved by the architects, Carrere & Hastings. That is why the following were installed:

Linolite System of Lighting

The stage, orchestra, poster boards and stands, ticket windows and indoor mechanical carriage calls are lighted with Linolite.

Linolite consists of a series of long, tubular electric lamps placed end to end in a powerful reflector, making practically one continuous lamp covering the entire area to be illuminated. It gives a clearer and more even light than bulb lamps and occupies about one-tenth the space. Lamps can be removed and replaced in a second. Metal reflector forms a fire-proof conducting conduit for wiring.

Sanitor Seats

Moulded in one piece under heavy hydraulic pressure. Have no joints to come apart—no cracks, crevices or pores to hold germs or dirt.

Warranted not to crack, split or warp.

Finished in mahogany, oak or white.

Vitribestos Theatre Curtain

A complete fire wall of corrugated steel construction on angle irons and backed with 1-inch sheets of Vitribestos.

Reduces fire hazard and insurance cost and absolutely protects the audience.

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Buffalo	Dallas	London	Minneapolis	Philadelphia		

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of academic technicalities, and, if issued separately, would make a professional magazine of great worth. Necessarily, therefore, THE NEW YORK ARCHITECT, as enlarged in scope, will be greatly augmented in an already enviable influence. However, the subscription price ($10.00 per year) is to remain unchanged for the present.

It is but natural that the costly character of the publication should cause a limited number of extra copies to be placed on the shelves with the expectation of subscriptions, yet we are anxious to anticipate demands for back numbers, which we have been unable to do in the past. New subscribers will confer a favor by sending their applications promptly, in order that our editions may be properly gauged.

THE HARWELL-EVANS CO., Publishers,
30-32 East 21st Street,
New York.

THE WILLIAM PENN THEATRE

The new William Penn Theatre, located at Lancaster and Fairmount Avenues, in the heart of the business section of West Philadelphia, which was opened to the public September 20, is decorated in splendid taste. The building occupies a plot of ground 100x75 feet, fronting on three streets, and is well equipped in every way from the standpoint of safety, having modern fire escapes and sixty-two exits. The orchestra provides 850 upholstered chairs, each twenty-three inches wide and spaced in rows thirty-six inches apart. The balcony has 760 chairs, similarly spaced, and the gallery accommodates 1,500. The boxes, of which there are twelve, seat ten each, making a total for the entire auditorium of 3,339 seats.

The fresco work follows the French Renaissance period in a color scheme of red, ivory and gold. The center of the proscenium represents Penn's Treaty with the Indians, the mural ornament being the work of Adolph Frie. All the relief work of the ornamental plastering is touched with gold and the draperies and valances are in green velours with silk and hand-painted embroidery appliqués, the motifs being emblematic of music. Two thousand yards of carpet were used in the theater.

The proscenium opening measures thirty-eight feet wide and thirty-five feet high. Over eight miles of manila rope is used on the stage to lift the various drops and scenes.

The architect and builder was Mathew Schmid, assisted by his son, William A. Schmid.—*Exchange.*

ACOUSTICS

The question of daylight is in many buildings a question of absorbing importance, and in modern structures it is not uncommon to have large areas of plate glass in the side-walls as well as skylights of the same. In large office buildings, concert halls, hotels or theater buildings, according to the investigations of A. Lecour, the French engineer, large glass surfaces may so interfere with the acoustic properties as to offer objections which counterbalance their advantages from an illuminating standpoint.

The question of acoustics does not usually enter into the calculations of the decorator, but we have recently had several instances brought to our attention which argue the advisability of the decorator devoting some thought to this subject.

In large auditoriums the question of acoustics resolves itself into the problem of eliminating reverberation, and at the same time accentuating the carrying power of sound. According to Robert Grimshaw, writing in *The National Builder,* "the architects of olden times, so far as acoustics are concerned, were far ahead of the average in the present day. They

form distinctive enough and artistic enough to enlist the endorsement and patronge of the leaders in the profession in all parts of the United States and Canada. The accuracy of the aim, measured by "endorsement and patronage," is most gratifying to all concerned in the publication of the magazine.

Manufacturers and others, interested in the parts of building construction, have recognized in THE NEW YORK ARCHITECT the medium that must appeal to the real "Master Builder," and have contributed much toward the maintenance of what is generally recognized as the most expensive (to produce), most elegant, and the best professional magazine in the world.

DONN BARBER.

Like many other successful men our editor is exceptionally liberal in his consideration of the work of others. Though a so-called "Beaux-Arts man" (being an Architecte diplomè par le Gouvernement Francais) and conducting an atelier bearing his name, in New York, Mr. Barber recognizes and admires the meritorious work of any other architect whatever his school. The same broad view point is exercised by the members of his consulting board of two architects, two sculptors and two painters, all of whom are eminently successful in their respective professions, and all anxious to give credit where credit is due.

THE NEW YORK ARCHITECT is extremely fortunate in having such broad, capable minds to direct its editorial policy.

Mr. Barber's past achievements and his present activity in the profession of architecture need no comment. He has his various operations so well systematized that his own time is conserved to a wonderful degree. He is thus able to edit THE NEW YORK ARCHITECT, without appreciable curtailment of his other professional and social engagements.

J. HOLLIS WELLS.

The architect and the engineer are so interdependent in large building construction, a closer alliance between the architect and the various engineers necessary to important construction is inevitable. The time may not be far distant when the architect may be graduated with a hyphenated degree, "Architect-Engineer."

THE NEW YORK ARCHITECT is the logical magazine to add the department of "Architectural Engineering," and the publishers announce with great pleasure that beginning January, 1910, Colonel J. Hollis Wells, of Clinton & Russell, will become editor of that department.

Colonel Wells has a national reputation among both architects and engineers as a leader in large building construction. He is doing important things all the time. He has a staff of successful well-known engineers to contribute to the department and makes, in the January number of the magazine, his own announcement, which will be more convincing than any advance notice we might make.

Treatment of architectural monuments from the points of view of both the architect and the engineer will make THE NEW YORK ARCHITECT more than ever "a magazine of thoroughness, quality and permanence."

NINETEEN-TEN.

Some of the work scheduled for 1909 has been held over by request. This forms the nucleus of a very interesting program for the New Year.

Mr. Barber has been reserving for an opportune time some rare things that will not only excite more than ordinary interest, but will give to our subscribers valuable material for their permanent files.

The department of Architectural Engineering, conducted by Colonel Wells and his staff, is to be stripped

STAGE SCENE, NEW THEATRE, NEW YORK

That beautiful Out-door furniture in the NEW THEATRE was purchased from

The Old Hickory Chair Co.

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Scenery, Properties, Stage Equipment, Stages arranged for private houses. Also Sole Manufacturer and patentee of THE LYCEUM SYSTEM Ticket Rack and Box Office Equipment.

the bridge, and located so as to direct all of the light on the stage and scenery, without allowing any to reach the auditorium. The centre section and wings are all independently controlled, both electrically and with respect to adjustment, as the wing sections of the bridge hinge at either end of the centre bridge section. To be sure, the entire bridge is held in position by one set of counter-weights, but the wing sections are independently adjustable by means of chain blocks.

The remaining four border strips allow a still further adjustment. For scenes where it is desired to secure a transparent effect, the center section of each border may be turned by the aid of a gear wheel to throw all of the light forward or through the scenes, or if the reverse is needed, the light may be thrown directly upon the scenes. It is also possible to dip or raise the wings so that the light may be concentrated in the centre of the stage, or otherwise, or in case of a narrow scene setting the length of the border may be reduced from sixty-eight feet to forty-five feet by means of hinges. In such cases the end bridge section, or contilevers are telescoped, and the wing borders rotate about an axis attached to the ends of the center bridge section. Each center border is rigidly attached to a shaft running its entire length, which is in turn resting in bearings attached to the bridge. The gear wheel is mounted on the shaft which may be turned on the bridge floor thus securing the adjustment.

The electrical divisions and control of the border system are worthy of much consideration. Each border consists of 528 lamps divided into four colors: red, blue, amber and white, each of which is independently controlled, 132 lamps of each color.

The foot lights consist of 312 lamps, divided into four colors, and are similar in nearly every particular to the borders. If a Shakesperian stage is needed, the foot light sections may be folded down in the trough, and a supplementary stage made over them and out over the orchestra pit.

Each color on each foot and border lights is operated on sixteen dimmers, which are controlled by the stage electrician from his box under the foot light trough, where he commands a view of the entire stage, unseen from the auditorium. His master switchboard and automobile step dimmer control from which he may operate a fifty-foot remote control switchboard, and dimmer system, together with the flexibility of the mechanical system, can bring into reality any lighting effect desired by the most vivid imagination.

The same tube lamp system is made use of on the orchestra music stands, for the illumination of the poster stands and board, the mechanical indoor carriage call, ticket windows and balcony sign.

The lighting system above described was manufactured and supplied by the H. W. Johns-Manville Company, 100 William street, New York City.

ARCHITECTURAL ENGINEERING

To announce the introduction of a department of Architectural Engineering to begin properly in January, 1910, the publishers of THE NEW YORK ARCHITECT are issuing an attractive brochure showing the portraits of Mr. Donn Barber and Colonel J. Hollis Wells in photogravure. We print below the text taken from the advance sheets:

THE NEW YORK ARCHITECT.

THE NEW YORK ARCHITECT is soon to enter upon its fourth year (Volume IV). It has aimed very high. It has sought to give to the architectural profession at least a portion of the more important in modern architecture in America, as well as a limited amount of modern European material—all in a permanent

Cement, thus presenting a smooth, absolutely fireproof surface with no metal parts exposed.

The curtain, which weighs about twelve tons, is supported by six steel cables, runs in steel ways, is operated by hydraulic mechanism and, in case of fire,

will automatically drop, taking only from fifteen to twenty seconds to reach its protecting position.

An interesting fact in connection with this ideal fire wall is that it weighs less than one-quarter as much as a brick wall of the same thickness, which would be entirely impractical, and not nearly as complete a barrier against flame.

THE NEW THEATRE FOOT AND BORDER LIGHT SYSTEM

In order that the highest degree of excellence should be maintained in stage lighting, as well as elsewhere in that which goes to make up our National or New Theatre, a system of illumination has been adopted which permits of a light control heretofore unobtainable.

The foot and border light illumination is secured from an electric incandescent tube rather than bulb lamp, the filament of which is comparable in dimensions with the familiar 16-candle-power carbon bulb lamp, but which filament is stretched from end to end in a ten-inch tube. With this construction the maximum amount of light given off is thrown upon the stage or where it is needed, as the plane of the filament is parallel to the space to be illuminated. The entire depth of the border lights is but three and one-half inches including the wire protecting screen, lamps, receptacles, frames and conduits, the total width being thirteen and one-quarter inches. The tube or "Linolite Lamp" employed for this purpose has been shown by test to have a considerably longer life than the bulb lamp of similar rating, due to its greater internal surface.

A simple yet most rigid construction of angle iron frames, enameled reflectors and protected porcelain receptacles, go to make up the foot as well as border strips. The lamps lie parallel to one another, and are spaced one and one-half inches between centers, every fourth lamp of the same color. Each border is made in three mechanical sections, a center and two wings. The proscenium border is rigidly attached to

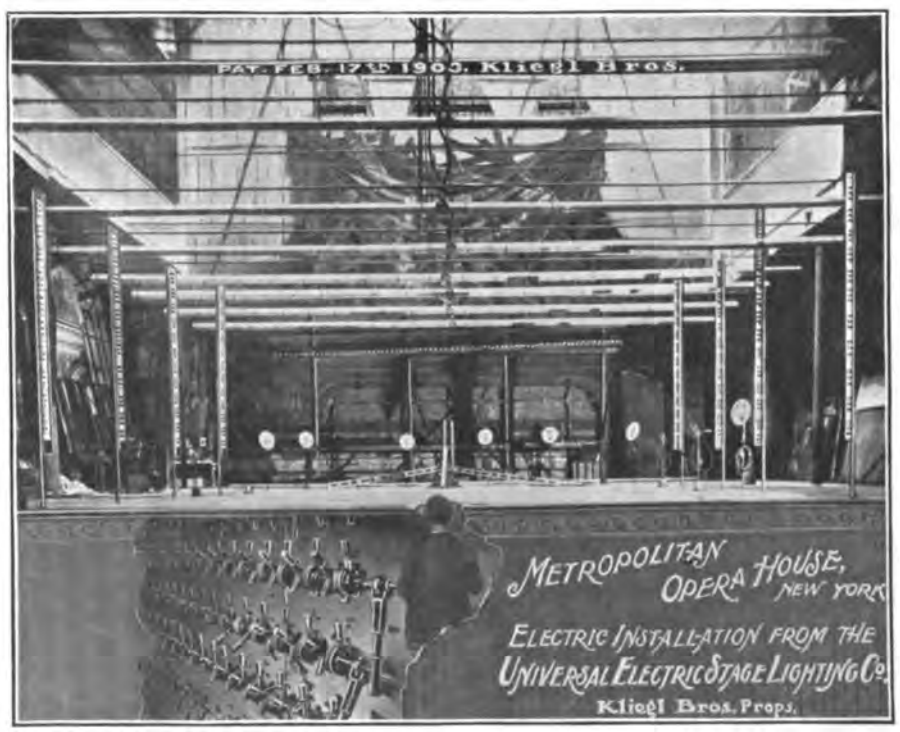
ANTON T. KLIEGL JNO. H. KLIEGL

Universal Electric Stage Lighting Co.

KLIEGL BROS., Props.

Contractors and Manufacturers of Stage Lighting Apparatus, Effects, Signs and Illuminations

Border Lights
Foot "
Proscenium "Lights
Bunch Lights
Strip "
Switchboards
Dimmers
Stage Pockets
Balcony Panel Pockets
Spider Pockets
Music Stands and Lights
Exit Signs
Star Monogram Signs
Open Boxes
Spot Lights
Reflectors
Sciopticons
Stereopticons
Effects
Incandescent Lamp Coloring


METROPOLITAN OPERA HOUSE, NEW YORK
ELECTRIC INSTALLATION FROM THE UNIVERSAL ELECTRIC STAGE LIGHTING Co.
Kliegl Bros. Props.

Theatres Furnished

Metropolitan Opera House
New Theatre
Belasco Theatre
New York City

Philadelphia Opera House
Boston Opera House
and other Theatres throughout the country

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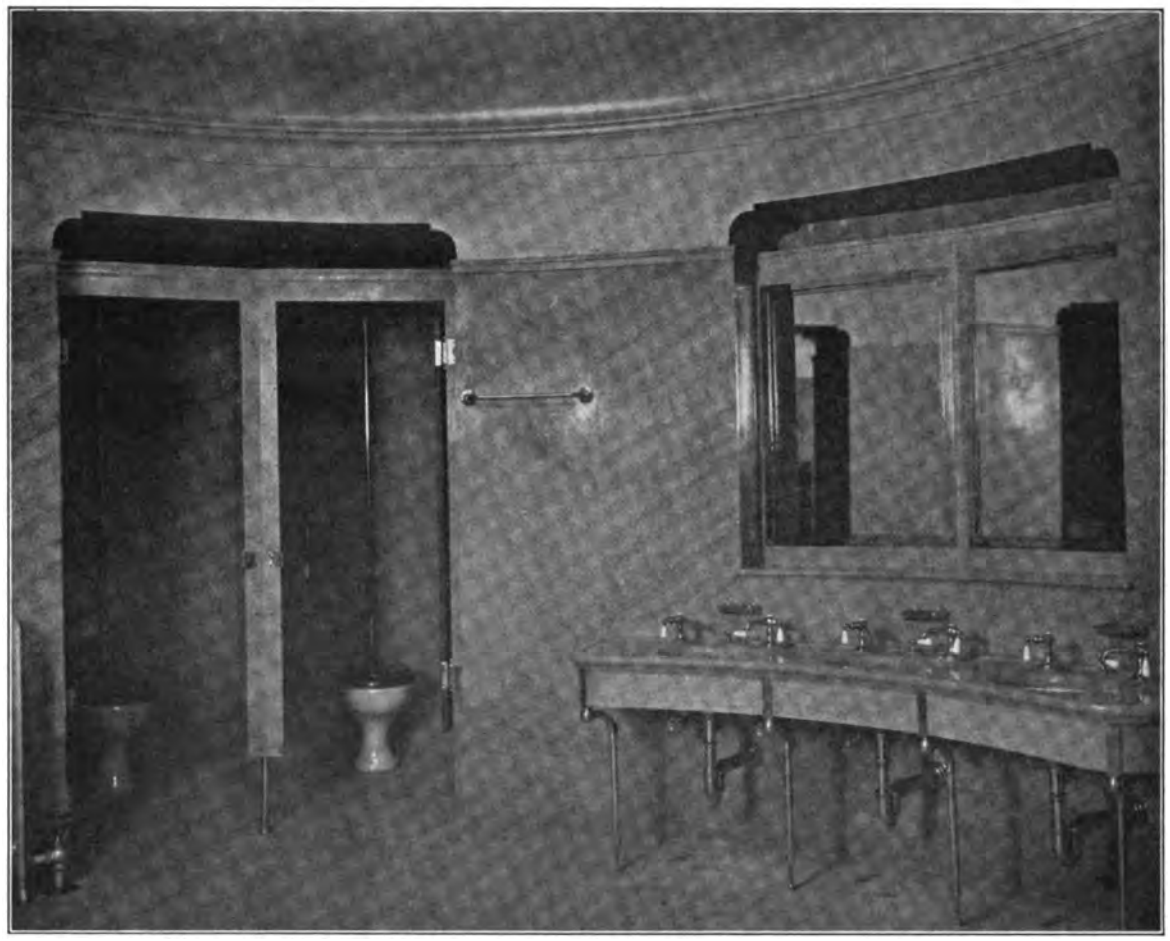

CARRERE & HASTINGS, Architects

SECTION OF CIRCULAR TOILET ROOM IN THE NEW THEATRE

WELLS & NEWTON CO.

.... OF ....

NEW YORK

PLUMBING, HEATING, VENTILATING AND ELECTRICAL CONTRACTORS

LARGE CONTRACTS A SPECIALTY

The Following Magnificent Buildings, Constructed in New York City, were equipped by us:

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BELNORD APARTMENTS — CITY INVESTING BUILDING — TRUST CO. of AMERICA
THE NEW $15,000,000 MUNICIPAL STATION, WASHINGTON, D. C.
NORTH PRUDENTIAL BUILDING, NEWARK, N. J.

A Few Other Prominent Buildings Equipped By Us:

Lawyers Title Ins. Bldg., N. Y.
Jersey City Hospital
Trinity Building, N. Y.
Flat Iron Building, N. Y.
Boston & Newhouse Bldg., Salt Lake City, Utah
R. I. State House, Providence, R. I.
Wells-Fargo Bldg., Portland, Ore.
Mills Building, San Francisco
Mass. Mutual Life Bldg. Springfield, Mass.
Capt. Larz. Anderson Residence, Washington, D. C.
Chicago Post Office
Lenox Hotel, Boston
Monadnock Block, Chicago
Machesney Bldg., Pittsburg
Diamond Bank, Pittsburg
National Theatre, 62d Street and C. P. W.
Bellevue Hospital, Pathological Bldg.
City Hospital Buildings
Metropolitan Hospital Buildings Blackwells' Island
Brunswick Bldg., New York
No. 1 Wall Street, N. Y.
Seligman Bank Bldg., New York
Kuhn-Loeb & Co. Bldg., New York
Essex Hotel, Boston
Board of Trade, Boston
Simmons College, Boston
Bellevue-Stratford Annex, Philadelphia
Pennsylvania Bldg., Phila.
Mutual Assurance Bldg., Richmond, Va.
Peoples Bank, Pittsburg
John Wanamaker Store, N. Y.
Breslin Hotel, New York
42 Broadway Bldg., New York
Payne Whitney Residence, New York
W. K. Vanderbilt, Jr. Residence
John D. Rockefeller Residence, Pocantico Hills
Mills Hotels, Nos. 1, 2 and 3, N. Y.
Mass. Mutual Life Bldg., Cape Town, S. Africa
Natl. Met. Bank, Washington, D. C.
Corcoran Art Gallery, Washington, D. C.
Willard Hotel, Washington, D. C.
Empire Bldg., Atlanta, Ga.

This makes it possible to set the control switches so that by the closing of the grand master switch the automatic switches are opened or closed, or the dimmer is short-circuited. The opening of the grand master switch will leave the automatic switches in the open or closed position, but will open all short-circuiting switches and bring the lights controlled by the switch back to the shade at which the dimmer is set.

The motors are started and the speed of the motors regulated from the operating board in the electrician's box. This board under the stage measures 5 feet 10 inches wide and 3 feet 10 inches high, and has mounted thereon all the apparatus necessary for the control of:

190 Dimmers, each with 15 sections,
225 Automatic switches,
168 Short-circuiting switches,
52 10-Point speed switches,
26 Master operating switches for dimmers,
26 Master operating switches for automatics,
26 Section master switches for control of dimmers,
4 Master color switches for dimmers,
1 Grand master switch for dimmers,
26 Sub-master switches for automatics,
4 Master color switches for automatics,
1 Grand master switch for automatics,
2 Motor starter and speed control switches.

The whole apparatus can be operated by one man.

The dimmer board proper is 95 feet long, and is located about 20 feet below the stage in a space 4 feet 9 inches wide, 99 feet long and 7 feet high.

The automatic switchboard is located under the dimmer room; is 65 feet long and in a room 81 feet long.

The current used for operating the dimmers is 10 volts.

The work was done under the supervision of:

Carrare & Hastings, Architects;
Marc Eidlitz & Son, General Contractors;
Pattison Bros., Consulting Electrcal Engineers;
Western Electric Company, Electrical Contractors.

The dimming outfit was invented, designed and built by H. Krantz, President of the H. Krantz Manufacturing Company, Switchboard Builders.

Safety to the public was the watchword in the construction of The New Theatre, New York city. Irrespective of what may happen on the stage, in the nature of fire, the audience and auditorium will be absolutely protected from fire and smoke by the mammoth Vitribestos fireproof curtain, which is in all respects in full keeping with the other elaborate and efficient mechanical equipment of this play house.

The curtain, which is in reality a wall forty-three feet high, forty-five and one-half feet wide and about four inches thick, is constructed of the H. W. Johns-Manville Company's Vitribestos Sheets applied against, and fastened to, a steel frame work.

Heavy angles at the top, bottom and sides form an immense frame which is cross braced with angles, and faced and further strengthened by a solid front of No. 12 steel plate, put on in sections and fastened together on the back with angles.

Steel straps placed every thirty-six inches apart and about three inches back from the face of the curtain, give supporting strength to the curtain, furnish a backing for the Vitribestos and a dead air space between the sheets and the steel face.

The Vitribestos sheets, six feet long, three feet wide and one inch thick, are placed against the steel straps. Two bolts for each sheet, put in through counter-sunk holes in the protected steel face, passing through the dead air space and the sheet, with sheet iron washers and nuts, hold the sheets to the straps. Staples hold the sheets together, while wire, fastened in the air space and running between the sheets and around the staples hold the edges.

All sheets are set up with Vitribestos Cement and the nuts, washers, staples and wires are counter-sunk into the sheets and covered and protected with Vitribestos

CARRERE & HASTINGS, ARCHITECTS

EIGHT REAL BRONZE
REPERTOIRE FRAMES

Similar to the above now on the Main Front of the New Theatre

Made by

Wm. H. Jackson Company

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New York

We also furnished all Tile Work in the Building
and Quarry Floor in the Cafe

CARRERE & HASTINGS, ARCHITECTS — MARC EIDLITZ & SONS, BUILDERS

THE NEW THEATRE, NEW YORK

ANOTHER HOME OF

C & C MOTORS.

IN THE NEW THEATRE

C & C MOTORS

ARE INSTALLED IN CONNECTION WITH ITS MODERN STEAM HEATING AND VENTILATING SYSTEMS

THE UNQUESTIONED SUPERIORITY OF

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CAUSED THEIR INSTALLATION IN THE FOLLOWING PROMINENT BUILDINGS:

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HOTEL ANSONIA, NEW YORK
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HOTEL RIETZ CARLTON, NEW YORK
GERMAN AMERICAN BUILDING, NEW YORK
NEW YORK PUBLIC LIBRARY, NEW YORK
NATIONAL PARK BANK, NEW YORK
NATIONAL CITY BANK, NEW YORK
IMPORTERS & TRADERS BANK, NEW YORK
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HANOVER NATIONAL BANK, NEW YORK
ROCKEFELLER INSTITUTE, NEW YORK
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WALTERS ART GALLERY, BALTIMORE
METROPOLITAN LIFE BUILDING, NEW YORK
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GARWOOD ELECTRIC COMPANY

SOLE MANUFACTURERS OF C & C APPARATUS

MAIN OFFICE & WORKS: GARWOOD, N. J.

NEW YORK — PHILADELPHIA — BOSTON — CHICAGO

ONE of the Extraordinary features of this NEW THEATRE is its perfect FIRE PROTECTION, planned by the Architects, Messrs. Carrere & Hastings, manufactured and erected by the

MANHATTAN FIREPROOF DOOR CO.

EXPERTS ON FIRE PROTECTION AND MANUFACTURERS OF HIGH CLASS KALAMEIN IRON CLAD WOOD WORK

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the footlights forms a section, making four sections for the footlights. All the dimmers for the house form one section, and all the dimmers for the flies form another section. Each section is so arranged that it can be moved from full light to full dim at five different speeds.

Each dimmer is divided into 15 shading sections, and the switch operating the dimmer is so arranged that each dimmer can be set at any of the 15 shade sections. A rotary operating switch is so arranged that if thrown to point 1 it will move the dimmer to full light, and if thrown to point 15, will move the dimmer toward full dim; point 8 being about half way.

The operating board is so arranged that any or all of the operating switches for dimmers can be set at any desired point, at any desired speed, prior to the time the change in dimming is to take place. It is so arranged that each section of each color can be moved toward full light at a speed different from the speed toward full dim and the total speed variations which it is possible to obtain varies from two seconds to sixteen minutes, or any speed between two seconds and sixteen minutes.

The whole dimming outfit is controlled by two full light, and one for moving the dimmers toward full dim; but the outfit is so arranged that one motor can be used for both purposes.

All the operating switches for dimmers are set in groups to correspond with the sections, and each section is provided with a master shading switch. Each section is also provided with a section master switch and all the section master switches are in turn provided with a color master switch, and both section and color master switches are controlled by a grand master switch. This arrangement makes it possible for the operator to set each and every one of the controls for dimmers to be used for the next change of lights, before the change is made, and at a signal the closing of the grand master switch will set any or all the dimmers moving in any direction desired, at any of the five sections speeds desired, and at any desired master speed. This arrangement also makes it possible to increase the speed of changes at will for each section independent of the others, or all sections together, at a moment's notice.

One important point is that all the apparatus can be set to do the work for the next change of light, during the time the performance is going on, without in any way interfering with the lighting effect obtained for the act or scene then being played.

The operating switches are so arranged that the operator can see from the position at which the switch is set, the shade obtained through the dimmer operated by the switch. The operating switches are numbered 1 to 15 to correspond with the 15 shading sections of the dimmer, and at a rehearsal the proper position of the dimmers for the performance can be determined by the number indicating the position of the handle, so that an actual reproduction of the shades determined at rehearsal can be secured with absolute certainty.

The switches for all lights for the stage and house are of the automatic type, and controlled by a switch adjacent to the dimmer operating switch. These switches are divided into sections corresponding with the sections of the dimmers, and each one has its master operating switch. In addition to the master operating switch there is a section master switch, and all sections are controlled by color master switches; and all section and color master switches are in turn controlled by a grand master switch.

The automatic switches are provided with short-circuiting devices, short-circuiting the wires leading to the dimmers, so that instantaneous change from any of the shades obtained by the dimmer can be had to full light just as long as it is desired.

CARRERE & HASTINGS, ARCHITECTS

INTERIOR VIEW OF THE NEW THEATRE

The Seating throughout the
New Theatre furnished and
installed by

American Seating Company

Extensive
Designers and
Manufacturers of

Opera Chairs
Church Furniture
Ecclesiastical
Work etc.

19 West 18th Street - New York City
215 Wabash Avenue - - Chicago
70 Franklin Street - - - - Boston
1235 Arch Street - - Philadelphia

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A permanently installed vacuum cleaning plant is now considered as necessary an adjunct of the modern theatre as the heating and ventilating systems or the electric machinery installed for lighting and other purposes.

By no other means can thorough and effective cleaning be accomplished, not only of floors and rugs, but of decorations, carvings, cornices and, in fact, all parts and furnishings of the building.

The vacuum cleaning system was installed in The New Theatre by the Spencer Turbine Cleaner Company, No. 1 Madison avenue, New York, and consists of a permanently installed machine, located in the basement connected by iron piping to numerous inlet valves in various parts of the building, so located that any part of the building to be cleaned can be reached with the use of not over fifty feet of hose.

Special tools of various sizes and shapes are provided for cleaning various materials and fabrics, around seats and in inaccessible places.

The Spencer Turbine Cleaner System was selected for this work after careful investigation of all systems by competent engineers.

Among the points of superiority characteristic of the Spencer system only, are claimed the following: First—The air exhauster is of the turbine type and consequently has no sliding contacts or tight-fitting moving parts as would be the case with a reciprocating pump. Second—Constant vacuum is maintained at the machine, irrespective of the load, so that the effective work done by each set of hose and tools is the same, irrespective of the number of sets of hose and tools attached. The vacuum never goes so high as to injure the fabric cleaned, nor so low as to fail in its effectiveness. Third—The volume of air exhausted being many times greater than would be possible with any practicable size of piston pump, admits: (a) the use of tools of much greater capacity capable of working much faster, and picking up much larger litter, such as cigar butts, peanut shells, scraps of paper, etc; (b) the use of pipes and hose of greater capacity to allow the taking up of larger dirt without clogging. Fourth—Eliminating the friction load or power required to maintain the vacuum, the energy required to operate is directly in proportion to the number of sets of hose and tools in operation, which is not true of a reciprocating pump system. Fifth—The machinery is extremely simple and requires so little care and attention, that ten minutes' instruction is sufficient to enable any ordinary attendant to operate and take care of it. Sixth—The floor space required is extremely small; in the case of a machine capable of operating simultaneously six sets of hose and tools being only 31 inches square.

DIMMER OUTFIT

The control of dimmers and switches for lighting of stage and house in theatres, known to the art, was not satisfactory to the management of the New National Theatre. The shortcomings of the system were too many, and the management required an outfit which would give the best results that could be obtained. The main points specified covering this installation are substantially as follows:

There is no room occupied on the stage by the dimmer board or switchboard.

All the dimmers, automatic switches, and speed-control switches areoperated from a small operating board adjoining the prompter's box under the stage. This operating board is so arranged that each dimmer has its individual shade controlling switch. Each of the four colors in each of the eight borders is divided into four sections; making 16 sections for each of the eight borders. Each color of the pockets forms a section, making four sections for the pockets. Each color of

The following list will show you the high class buildings upon which

"R. I. W." DAMP RESISTING PAINTS and "TOCKOLITH" (Patd.)

have been used. There are thousands of others equally prominent upon which these materials have also been used.

NEW THEATRE	New Public Library
Metropolitan Tower and Buildings	Plaza Hotel
Singer Building and Tower	Pensylvania R. R. Terminal
Hotel Astor	Hudson Terminals
World Building	Farmers Loan & Trust Co.
U. S. Custom House, New York	Broadway Tabernacle

etc. etc. etc.

No matter what damp-proof problem confronts the architect or contractor, we manufacture a grade of "R. I. W." Damp Resisting Composition which will solve it.

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Makers of Paints, Enamels and Varnishes since 1848

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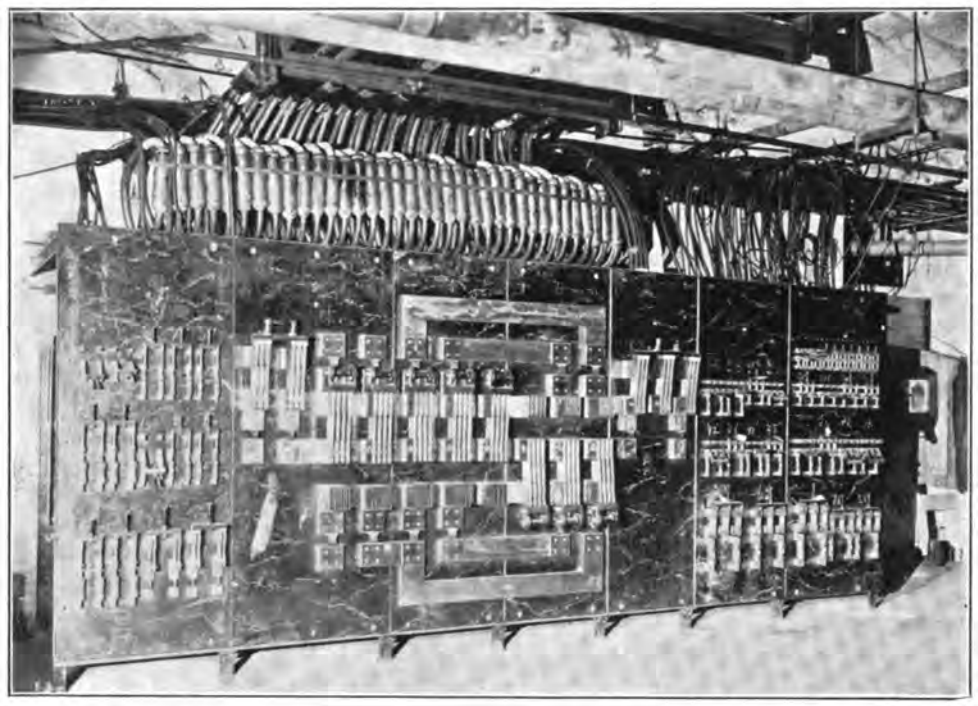
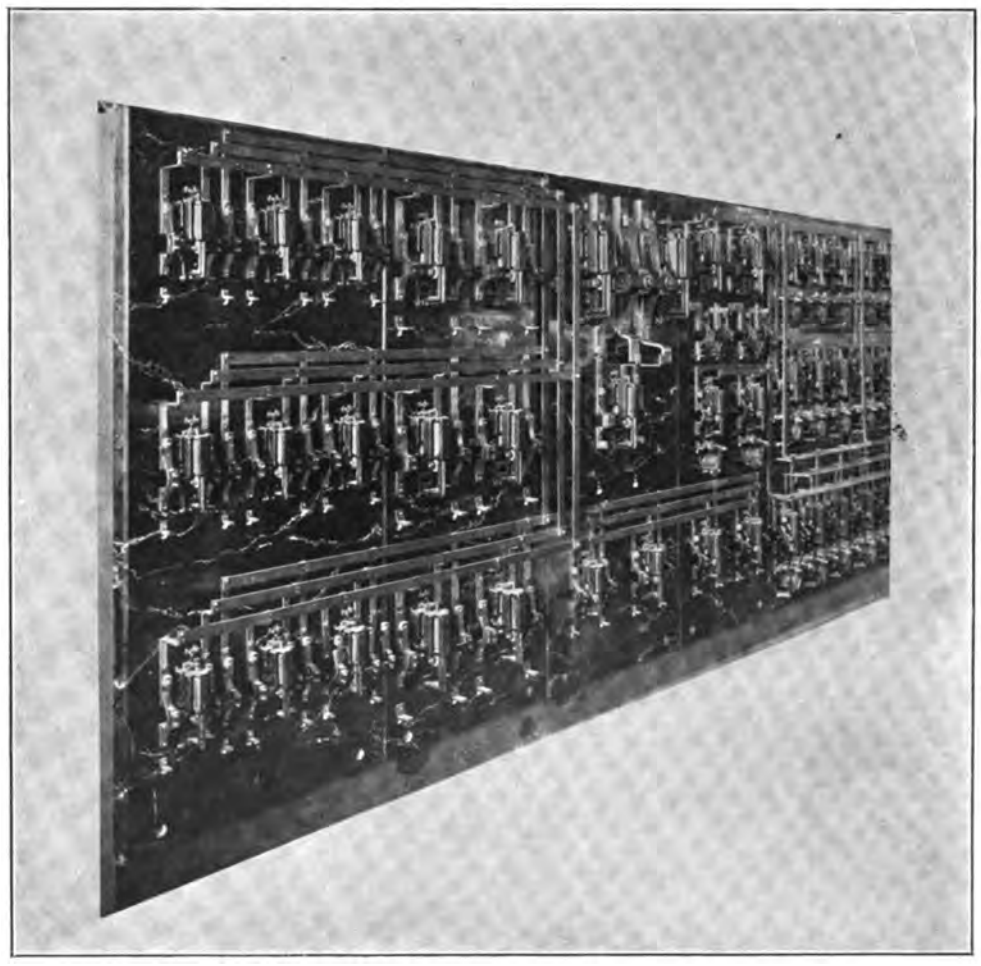
WORKS: LONG ISLAND CITY



MAIN SWITCHBOARD FOR NEW THEATRE



SECTION OF AUTOMATIC CONTROL BOARD FOR STAGE AND HOUSE LIGHTS, NEW THEATRE

CARRERE & HASTINGS
ARCHITECTS

MARC EIDLITZ & SON
GENERAL CONTRACTORS

PATTISON BROS.,
CONSULTING ELECTRICAL ENGINEERS

WESTERN ELECTRIC CO.
ELECTRICAL CONTRACTORS

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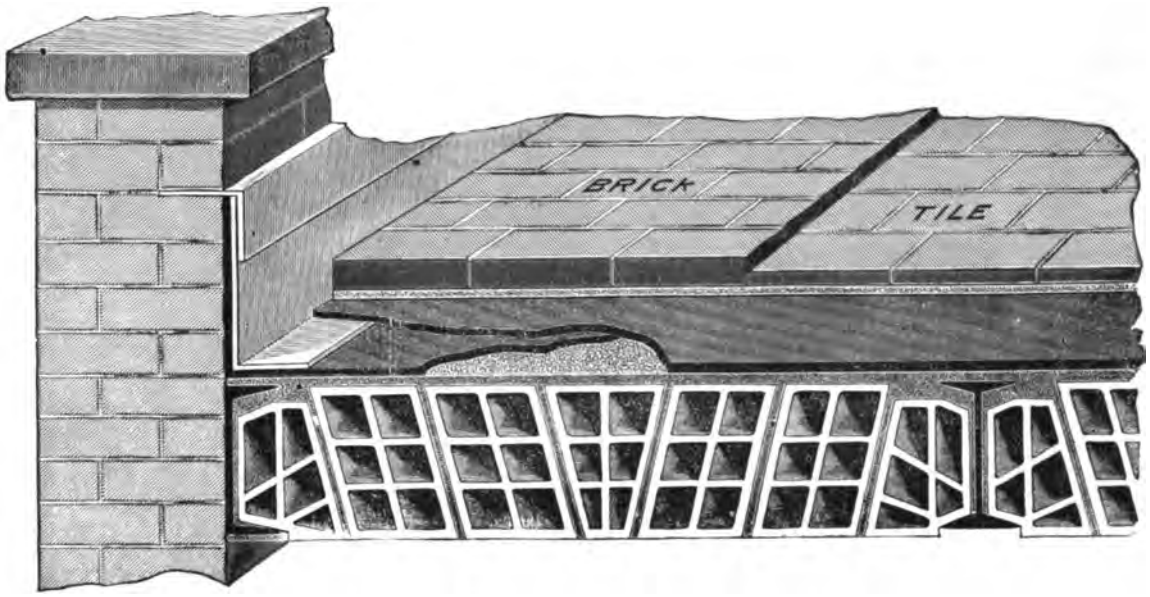
L. W. HARRINGTON, PRESIDENT W. L. HARRINGTON, VICE-PRESIDENT W. D. GRAHAM, SECRETARY

T. NEW'S PATENT BRICK AND TILE ROOFS



ESTABLISHED 1883

T. NEW CONSTRUCTION CO.

CABLE PLUMBLINE, N. Y.

WATERTIGHT CELLARS

518 and 520 WEST 29th STREET, NEW YORK

The Waterproofing of the Substructure of the New Theatre was installed by us.

Our Brick Roofs will last a lifetime, even on Tenement property, without any repairs as evidenced by many roofs now in good order between thirty and fourty years old.

while the American stone is 1 to 42. That Old Hoosier is the stronger of the two is shown in the fact that the reliable sustaining weight of a square foot of Portland stone is 82,000 pounds while that of Bedford is not less than 135,000 pounds per square foot.

Indiana Oolitic limestone deposit was opened up about sixty years ago, but was only used locally up to 1874 when it was put out on the market, and of late years this stone has become so popular that the demand has taxed the district to the limit, even though the most modern methods and machinery are used in the production.

Fortunately the deposits of Oolitic limestone are centrally located and, in fact, could not have been placed in a better locality for transportation to all parts of the country if the site had been selected, and on account of the ease with which it can be quarried and finished, and its absolute weatherproofness it has become the ideal stone for all American building purposes.

Fine and delicate carvings on Bedford stone will withstand the effects of temperature and will remain as perfect at the end of a century as when cut, as is evidenced by the appearance of the natural out-croppings of the stone which have been exposed to the elements for centuries and are still sharp and clear.

That Indiana Oolitic limestone has become the recognized material for the highest class of architecture is evidenced by the fact that the United States Government is using it extensively for some of its finest buildings and some of the more notable buildings in which "Old Hoosier Blue" from the Hoosier quarry of the Bedford Quarries Company, has been used are:

The Carnegie Institute, Washington, D. C.
The Trinity Building, New York, N. Y.
The City Investing Building, New York, N. Y.
Chaplain and chaplains' quarters, West Point, N. Y. (United States Military Acadamy).
Cathedral of Immaculate Conception, Denver, Colo.
St. Mary's Cathedral, Covington, Ky.

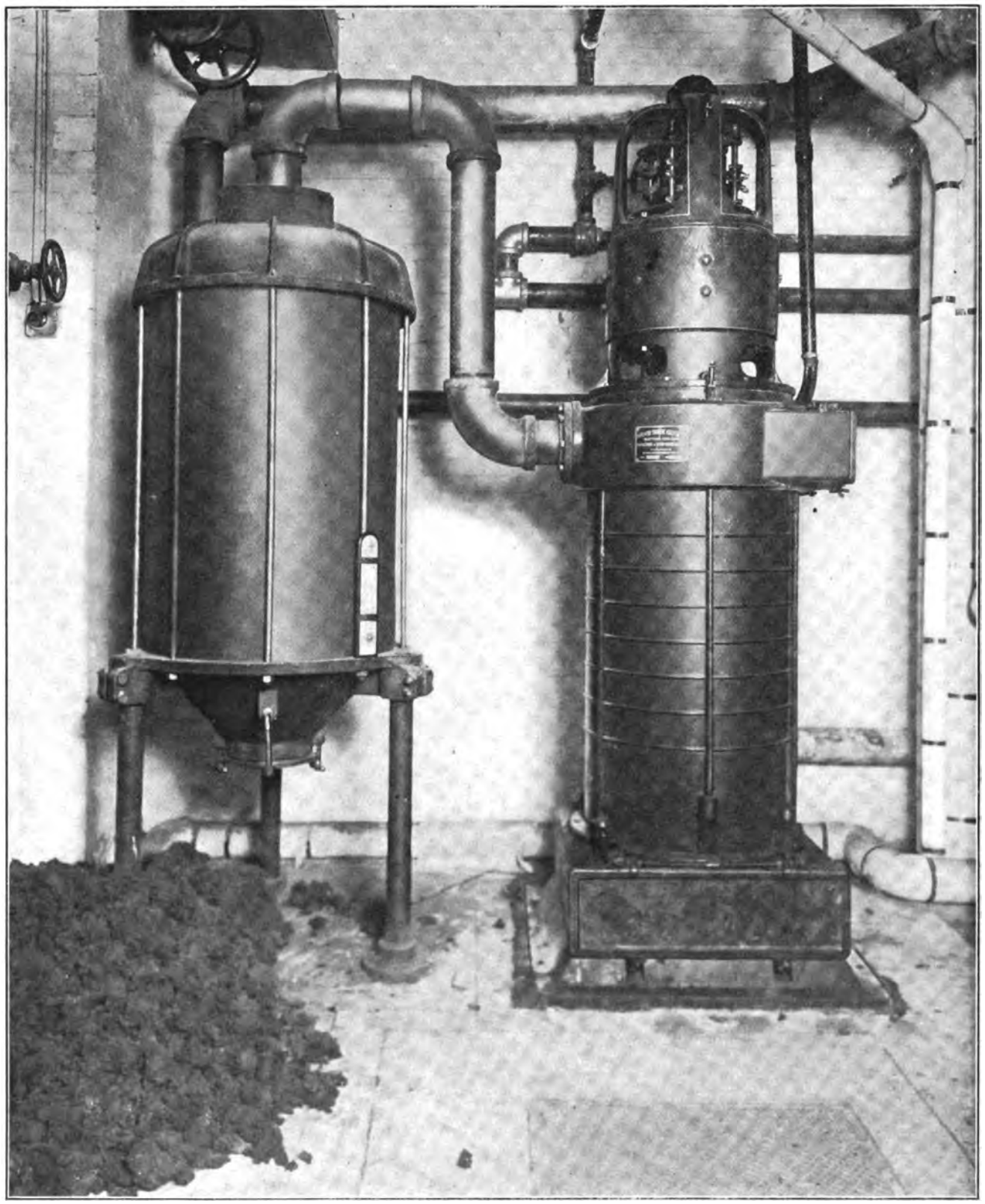
Buff and Blue stone is produced from the Old Hoosier quarry, the Buff assuming the soft and velvety color while the light Blue, after assuming the pearl gray color, carries with it the dignity befitting work of this character.

EMBROIDERIES IN THE NEW THEATRE

Among the most striking features of the decorations in The New Theater are the embroideries. These were made by B. Saubiac & Son, of New York; the draperies through the A. H. Davenport Company, and the upholsterings through the American Seating Company, who supplied the chairs. It required 1,620 richly-embroidered medallions for the orchestra, balcony and entresol chairs. These medallions represent the masks of comedy and tragedy looking into a hand mirror, which shows the number and row by which the chair is designated. The idea is quite unique, and the work is exquisitely done.

Of the three stage curtains, also by B. Saubiac & Son, through the A. H. Davenport Company, the main curtain is one of the handsomest ever made for a theater. It is of red velours richly embroidered in gold-padded work and containing many kinds of cloth of gold. It is in the style of Louis XIV. The dado contains six panels heavily embroidered and appliquéd with rich galloons each containing a hand-painted symbolic medallion. The valance also is beautifully embroidered to match the curtain.

The two other curtains, back of the main curtain, are made in deep crimson velours with rich appliqués of self-toned damask. All the embroideries used in the theater will stand the closest inspection, a fact not always true of this class of work.



VACUUM CLEANING INSTALLATION IN THE NEW THEATRE
CARRERE & HASTINGS, ARCHITECTS

THE SPENCER TURBINE CLEANER COMPANY

VACUUM CLEANING APPARATUS FOR ALL PURPOSES

HOME OFFICE
HARTFORD, CONN.

NEW YORK OFFICE AND
DEMONSTRATING ROOM
NO. 1 MADISON AVE.

NOTES FOR ARCHITECTS

In connection with the illustrations of this issue of THE NEW YORK ARCHITECT it is of interest to state that the official photographer of The New Theatre is a woman, one of the foremost in her profession, Miss Frances Benjamin Johnston, of Washington, D. C., who has recently established a studio in New York. "Photographer to the American Court" is a title which has long pursued Miss Johnston, owing to the fact that Presidents and their families, cabinet officers, ambassadors and most of the other notable men and women of the past decade at the National capital have sat to her. It was Miss Johnston's last portrait of President McKinley, taken at Buffalo, which, translated into bronze, became the martyred President's National memorial statue at Canton, Ohio. It was she who, at the close of the Spanish-American war, met Admiral Dewey and his fleet returning from Manila Bay and furnished to the press of the world the first photographs of the Olympia and her crew. This and other such journalistic achievements, which have carried her from coast to coast of this country and into most of the capitals of Europe, have won for Miss Johnston an international recognition and she is one of the few American women who have received from the French Government the decoration of the *Palmes Academiques*. It seems peculiarly fitting that a woman of Miss Johnston's rare combination of technical skill and artistic appreciation should have been chosen as the medium for picturing to the American public the structural beauty of such an institution as The New Theatre.

The selection of "Old Hoosier Blue" Oolitic Limestone as the stone for the New Theatre is amply justified by results. Perhaps in no other building is this wonderful deposit of Oolitic limestone shown to a better advantage.

The light blue which will later assume a rich pearl gray color gives it a tone that carries out better than any other material could the spirit that prompted the building, while dignity and richness are expressed in the large blocks and elaborate workmanship called for by the design.

A deposit of stone such as The Old Hoosier Quarry might with justice be called a great national asset, in that it makes possible such architectural wealth that might otherwise be closed to the nation. The only similar deposit, the Portland Quarries of England are so recognized as a quasi-public institution, as no stone can be put on the market until the requirements of the government for one year in advance have been filled.

The Old Hoosier Quarry will never, under our governmental policy, have to face a like situation, but has obtained its somewhat parallel position under the widely differing process of general architectural recognition.

It will be of interest to the American profession to know that the analysis of English Portland, quarried in the South of England and Old Hoosier Bedford, are almost identical; the advantage being considerably in favor of the American stone in that it contains less iron and magnesia and more carbonate of lime than the famous English stone, which endures in so great a number of English public buildings from Westminster, the cathedrals (including St. Paul's) down to the best of Government work to-day.

The density of Old Hoosier stone, as shown by the geological reports, exceeds that of the Portland stone, the ratio of absorption of English stone is 1 to 20

Look at the Reflector

Notice the Effect

Architects, McKIM, MEAD & WHITE

Electrical Engineers C. O. MAILLOUX and C. E. KNOX

THE NATIONAL CITY BANK, NEW YORK

VIEW INSIDE OF BANK SCREEN SHOWING

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MODERN ARCHITECTVRE

CONSTRUCTIVE & DECORATIVE

AS EXEMPLIFIED BY THE LEADING ARCHITECTS

IS REMARKABLE FOR THE

PROGRESS MADE IN THE LAST DECADE

MAYNICKE & FRANKE
ARCHITECTS

TYPICAL CORRIDOR
FIFTH AVENUE BUILDING, NEW YORK

THE MOST NOTEWORTHY FEATURE OF THIS PROGRESS

IS THE CONTINUED AND GROWING USE OF

HOLLOW STEEL WINDOWS, DOORS AND TRIM

JOHN W. RAPP CO.

Metropolitan Life Bldg., 1 Madison Ave., New York

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MAIN

STAIRWAY, NEW THEATRE

CARRÉRE & HASTINGS, ARCHITECTS

Having the appearance of White Marble

Blanc Stainless Cement used in construction

Manufactured by

BLANC STAINLESS CEMENT CO.

NEW YORK OFFICE
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WORKS
ALLENTOWN, PA.

U. S. House of Representatives Office Building
Carrère & Hastings, Architects

At the Nation's Capital

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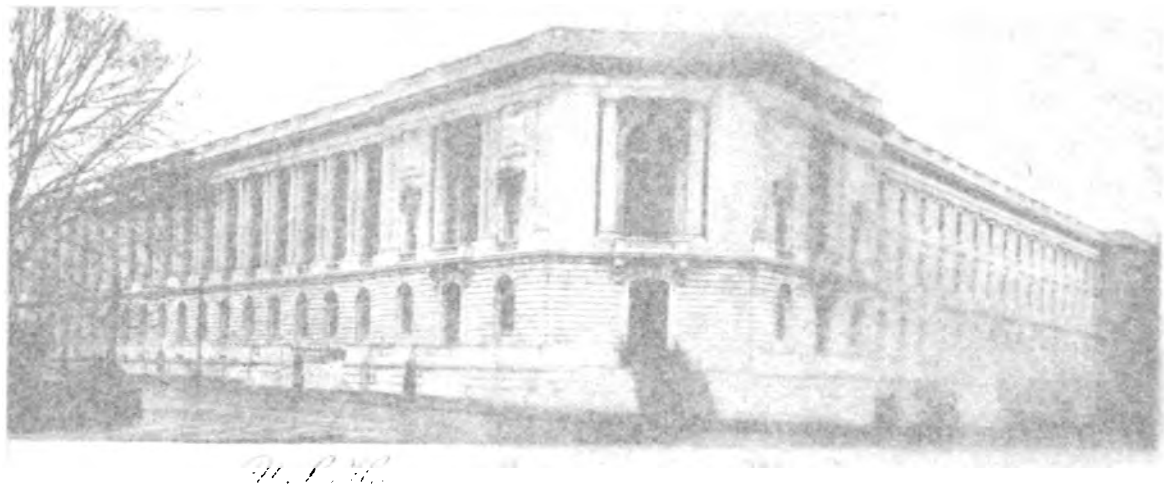


At the

CONCRETE

PORTLAND CEMENT

The Lawrence Cement Co.
NEW YORK

CARRÈRE & HASTINGS, ARCHITECTS

Photo: Miss Frances B. Johnston. Copyright, 1909, by The New Theatre

The New Theatre, New York

"THE NEW THEATRE" TO WHICH THIS ISSUE IS DEVOTED WAS
CONSTRUCTED OF "OLD HOOSIER BLUE" FROM THE HOOSIER QUARRY OF

THE BEDFORD QUARRIES COMPANY

204 DEARBORN STREET
CHICAGO, ILL.

MADISON SQUARE
NEW YORK

815 EUCLID AVENUE
CLEVELAND, OHIO

Photo. Miss Frances B. Johnston. Copyright 1909 by The New Theatre

View in Main Foyer of The New Theatre

CARRÈRE & HASTINGS, ARCHITECTS

The Bronze Grills and Registers throughout The New Theatre

New York City were executed by

TUTTLE & BAILEY MANUFACTURING COMPANY

NEW YORK CHICAGO BOSTON

ESTABLISHED 1846

Photo. Miss Frances B. Johnston. Copyright 1909 by The New Theatre

View in Main Foyer of The New Theatre

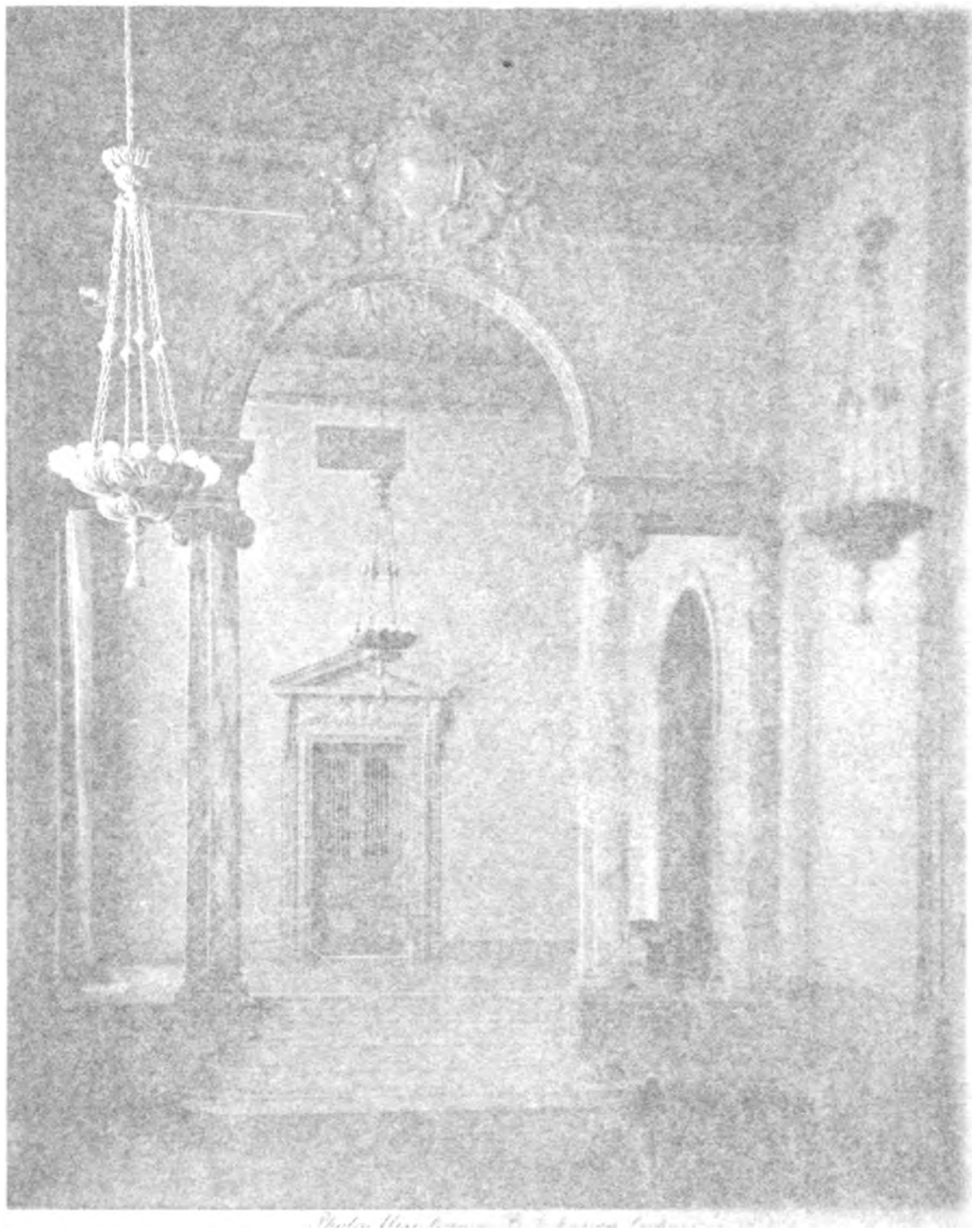
CARRÈRE & HASTINGS, ARCHITECTS

The Bronze Grills and Registers throughout The New Theatre New York City were executed by

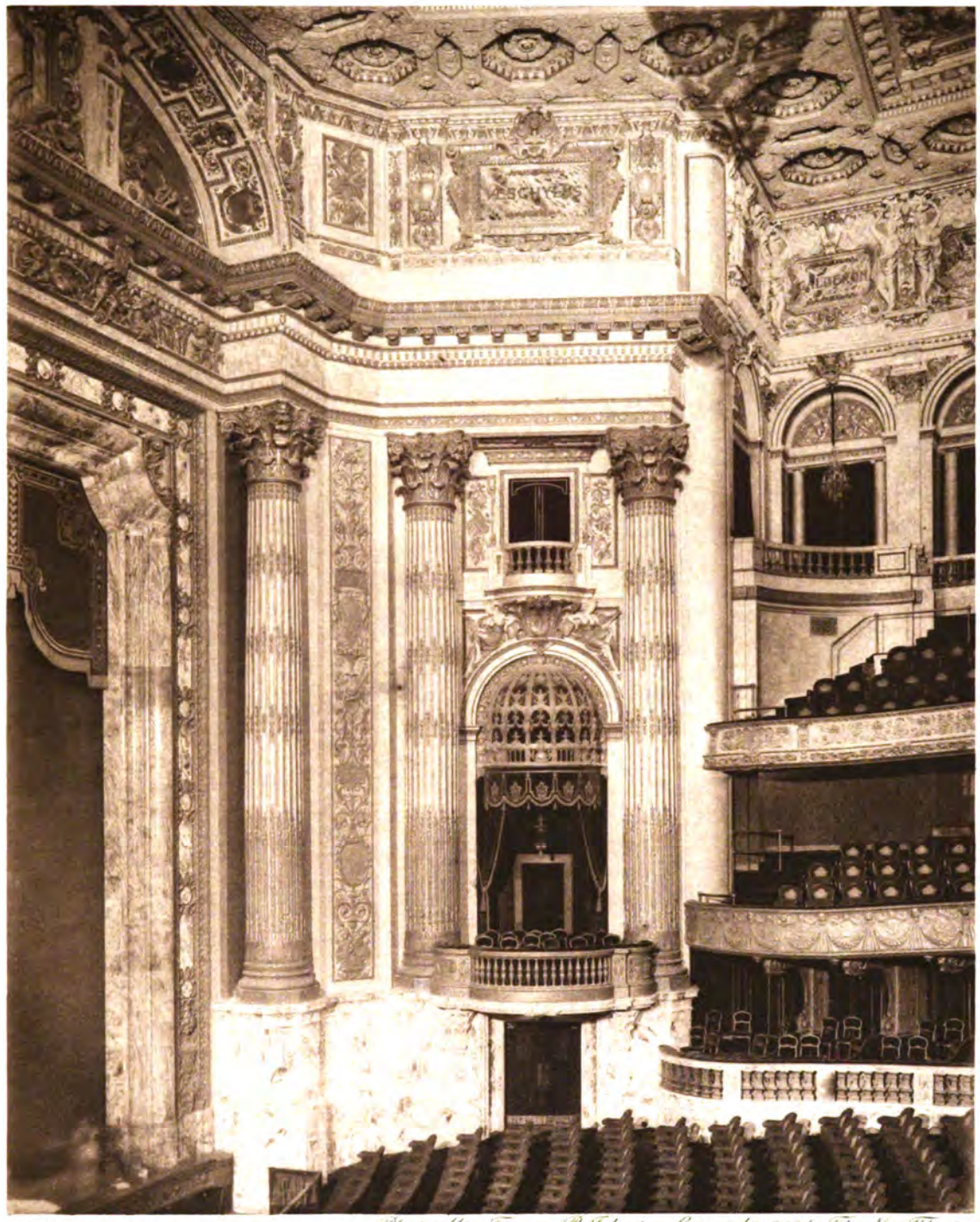
TUTTLE & BAILEY MANUFACTURING COMPANY

NEW YORK CHICAGO BOSTON

ESTABLISHED 1846



TUTTLE & BAILEY
NEW YORK



CARRÈRE & HASTINGS, ARCHITECTS

Photo. Miss Frances B. Johnston, Copyright, 1909, by The New Theatre

A Corner of The New Theatre

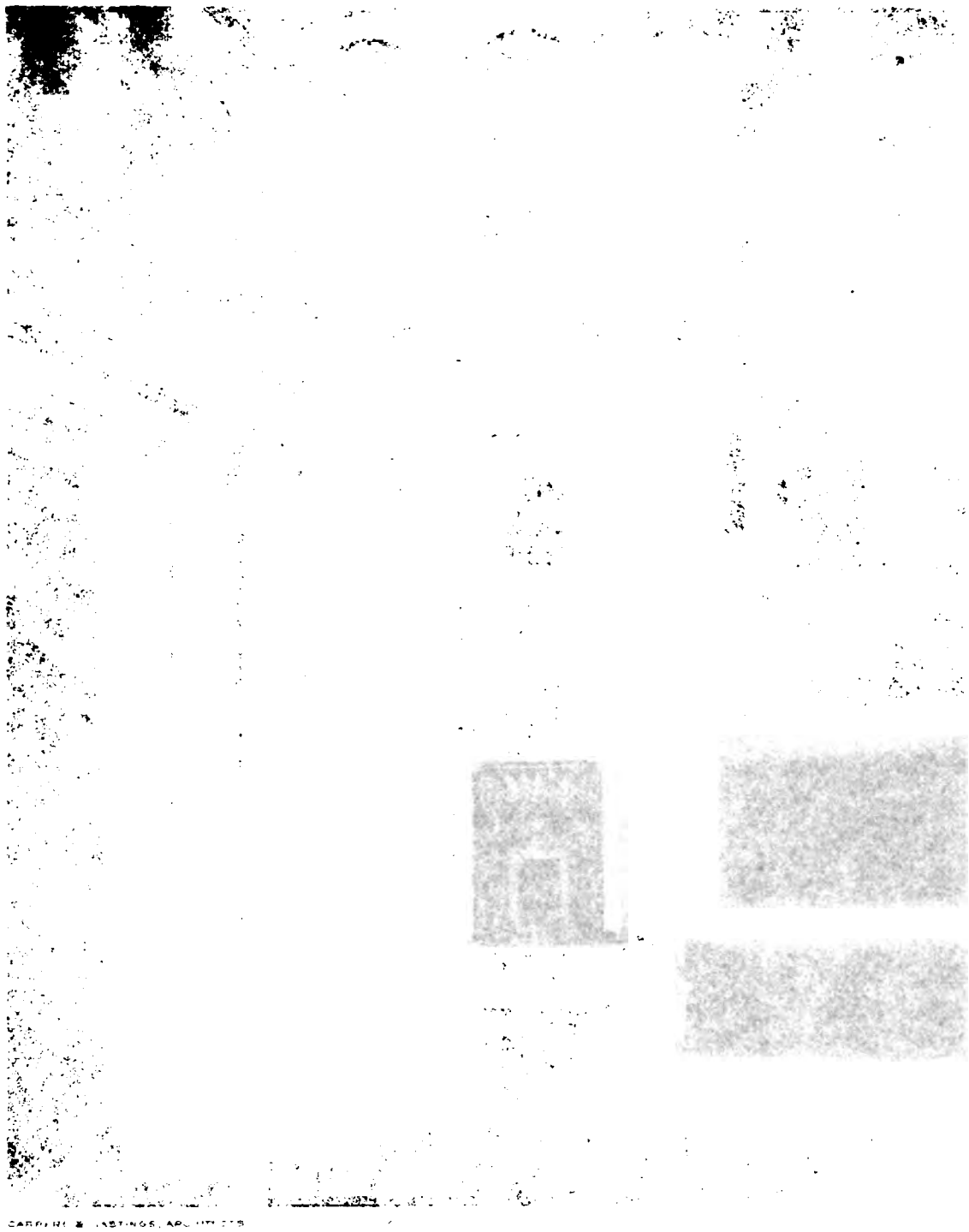
Illustration showing Artificial Marble Imitation
Stone Work, Imitation Bronze Balusters
Plain and Ornamental Plaster

executed by

KLEE-THOMSON CO.

327-329 EAST 40TH STREET

NEW YORK CITY



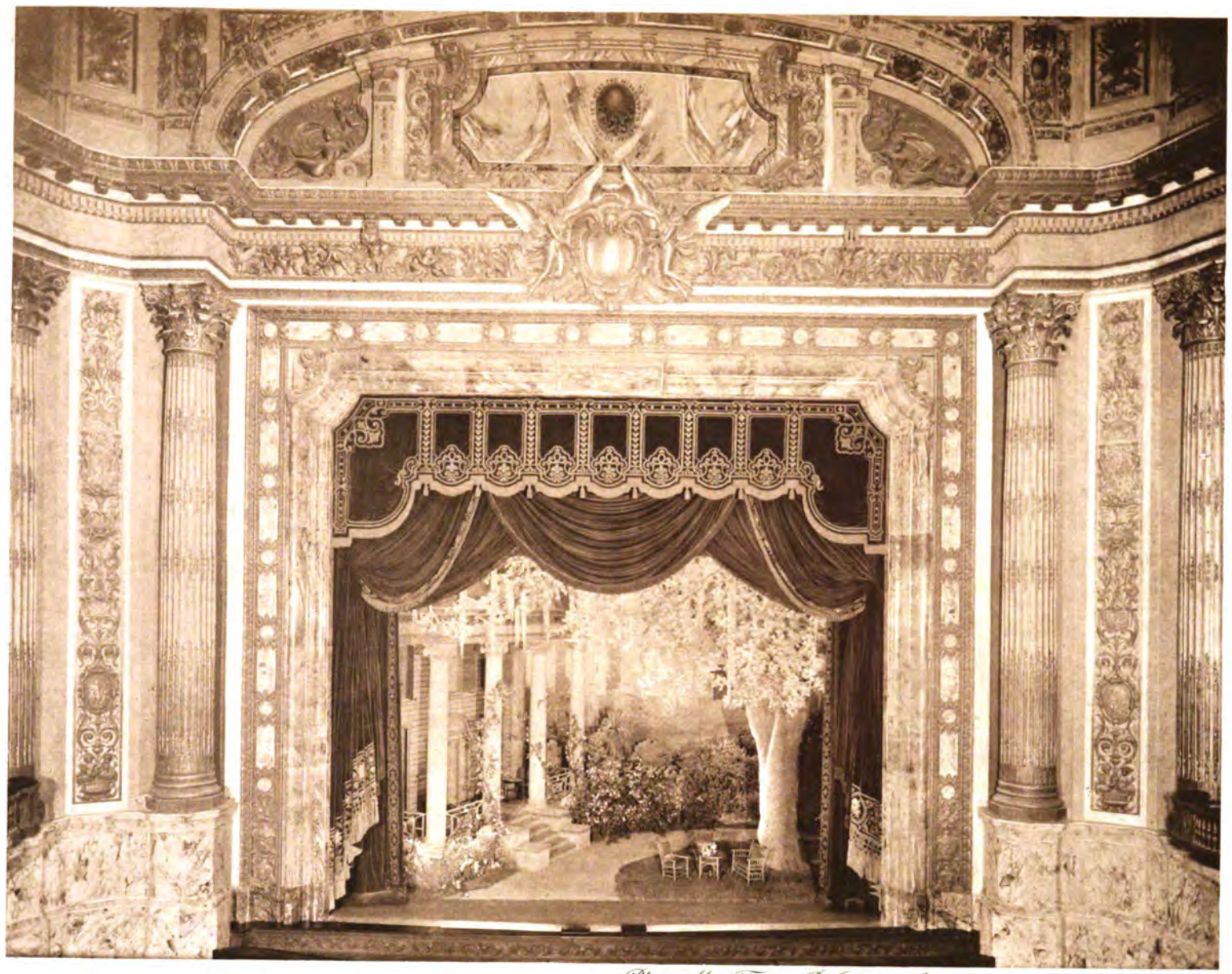


Photo. Miss Frances B. Johnston. Copyright, 1909, by The New Theatre

CARRÉRE & HASTINGS
ARCHITECTS

New Theatre Stage Curtains
also Box Curtains and Wall Canvas
EXECUTED BY
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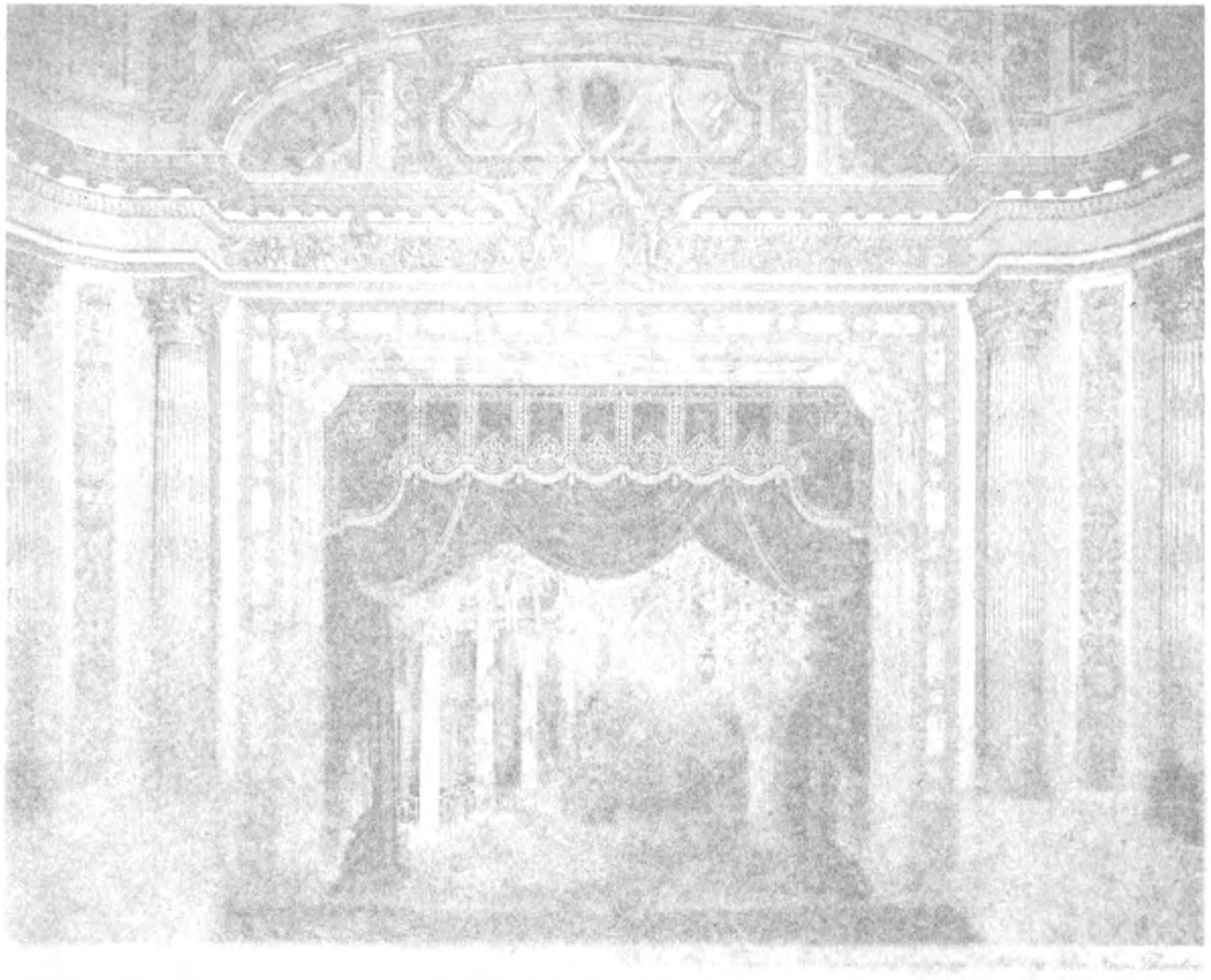
NEW YORK

BOSTON HOUSE
96-98 WASHINGTON ST.



Carrère & Hastings, Architects

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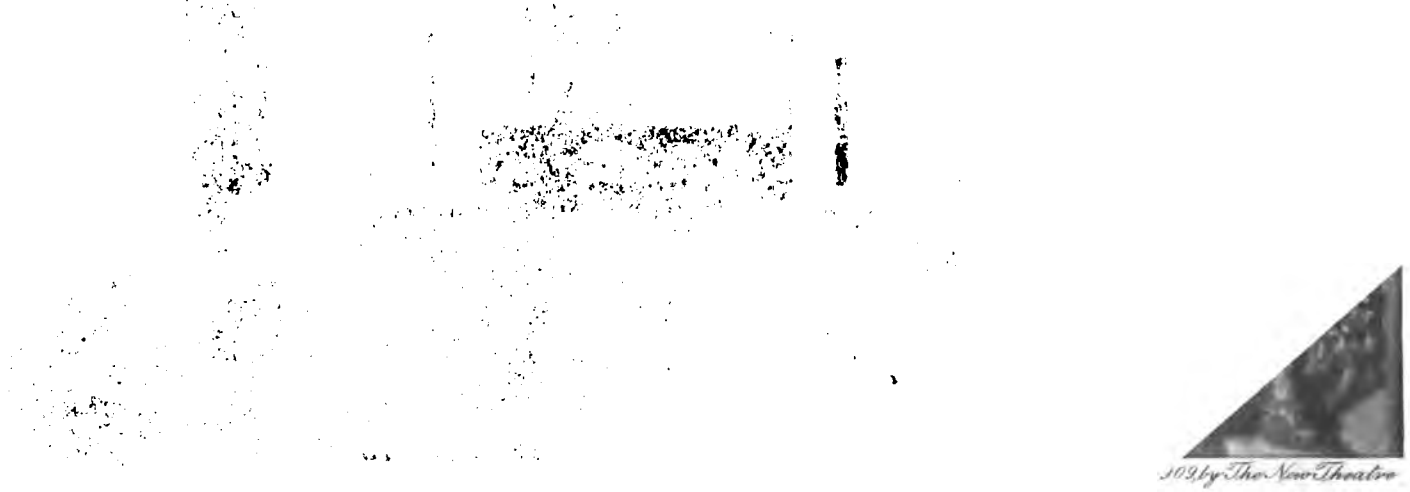
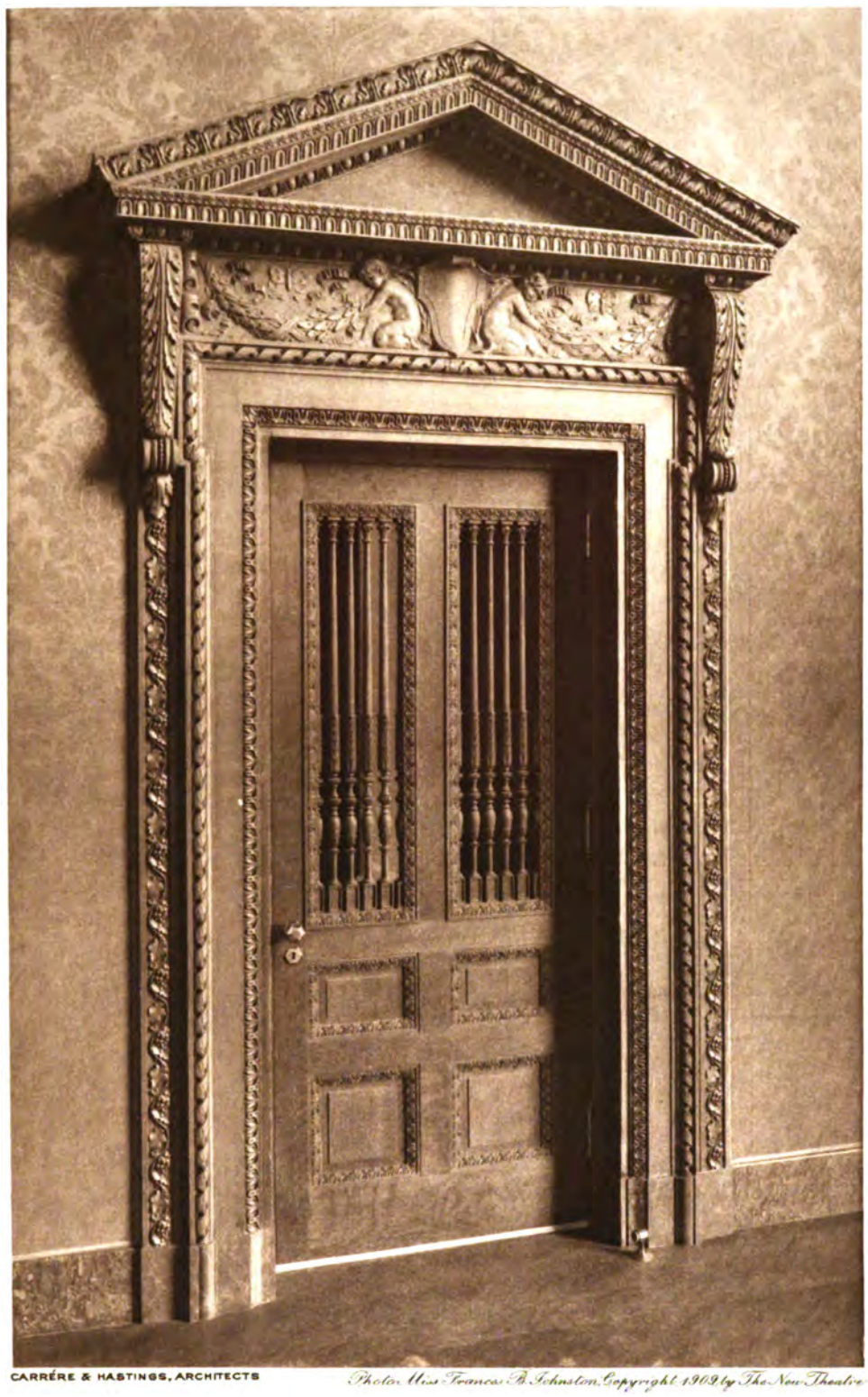
Entrance to the
Otis Elevators
in
The New Theatre
Otis Elevator Company



1909 by The New Theatre



CARRÉRE & HASTINGS, ARCHITECTS

Photo: Miss Frances B. Johnston, Copyright 1909 by The New Theatre

Foyer Door: New Theatre

The Cabinet Trim & Interior Finish throughout

The New Theatre was installed by

GEORGE W. SMITH & COMPANY, INC.

MANUFACTURER OF CABINET WOODWORK FOR

RESIDENCES, HOTELS, PUBLIC AND COMMERCIAL BUILDINGS

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39TH ST. & POWELTON AVENUE — PHILADELPHIA

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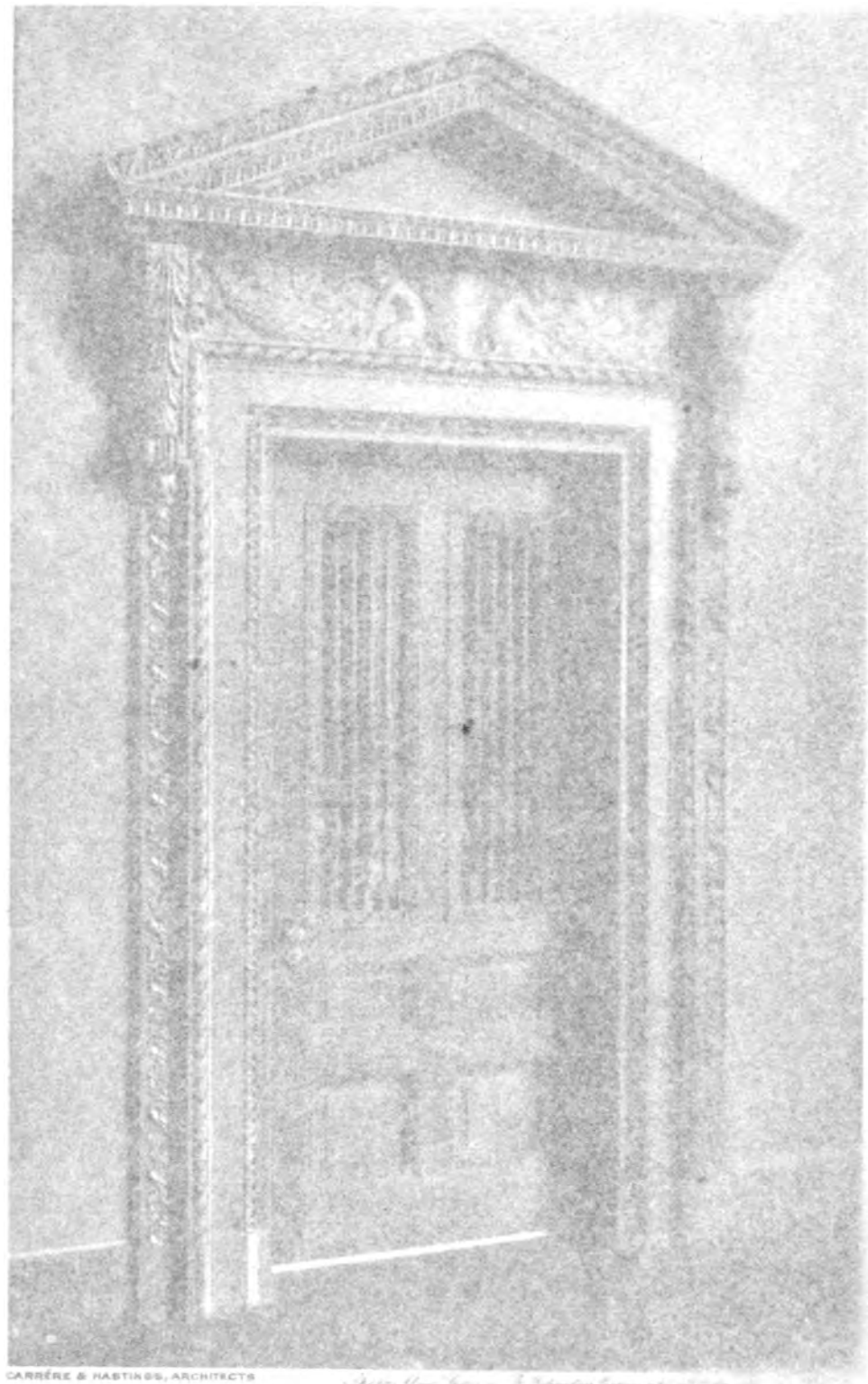


CARRÈRE & HASTINGS, ARCHITECTS

GEORGE W. SM[illegible]

MANUFACTURER OF CAR[illegible]

RESIDENCES, HOTELS, PUBLIC [illegible]

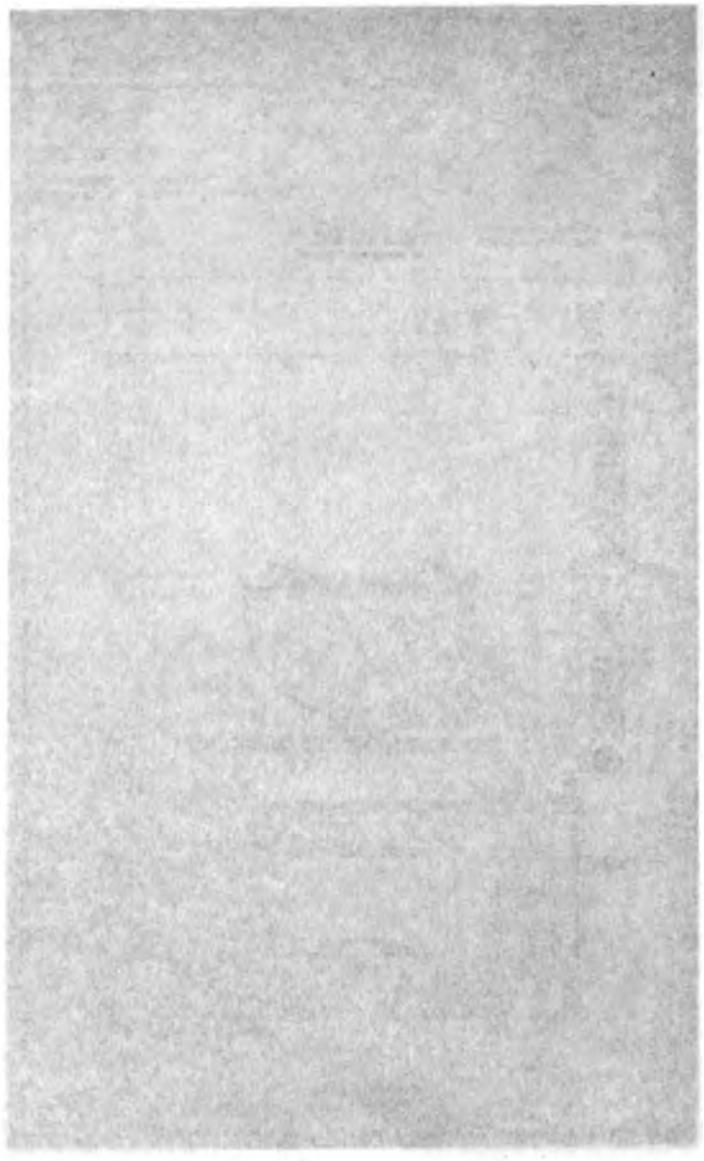
334 FIFTH AVENUE
NEW YORK CITY

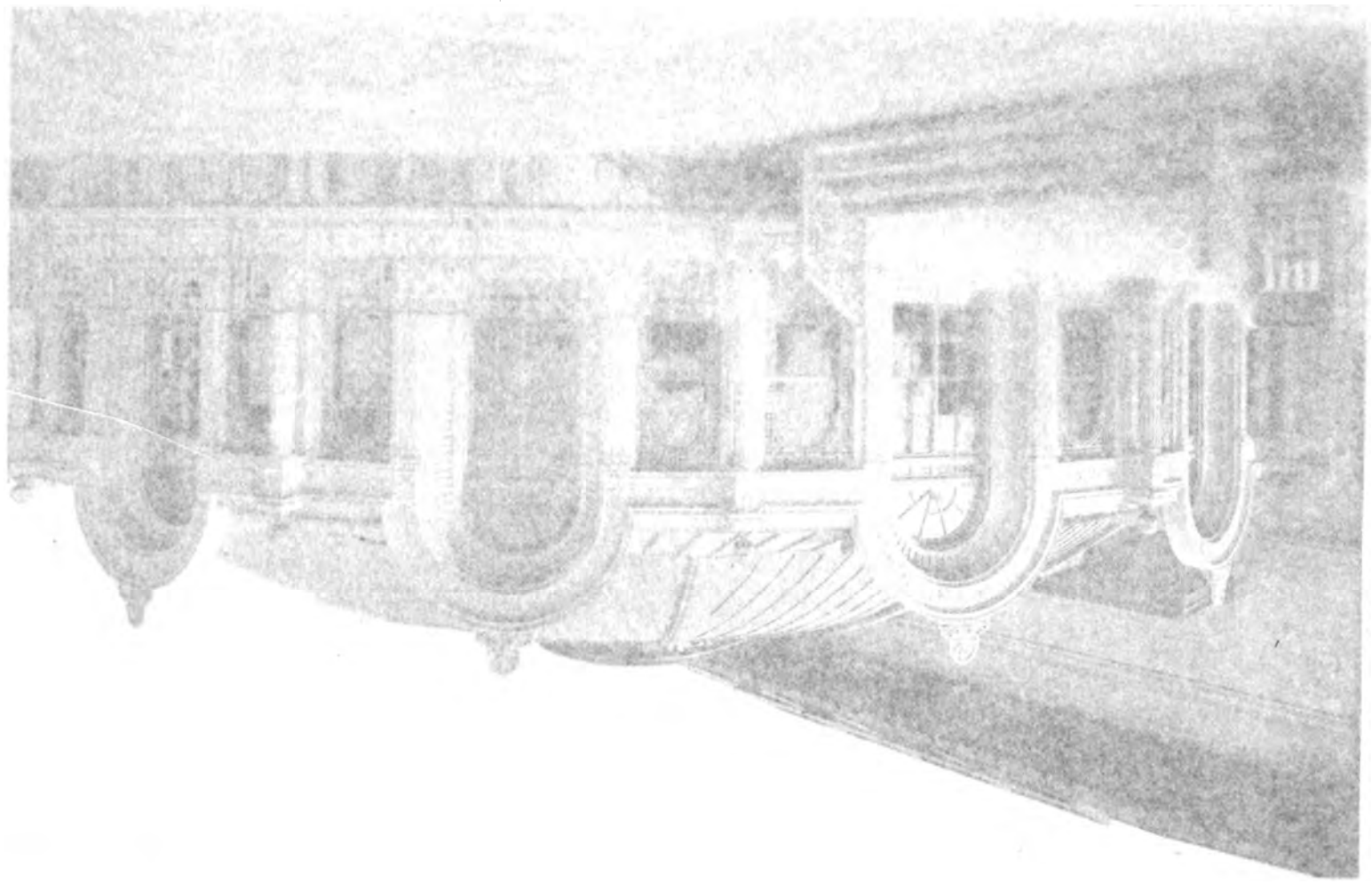
39TH ST & PONE[illegible]
PHILA[illegible]

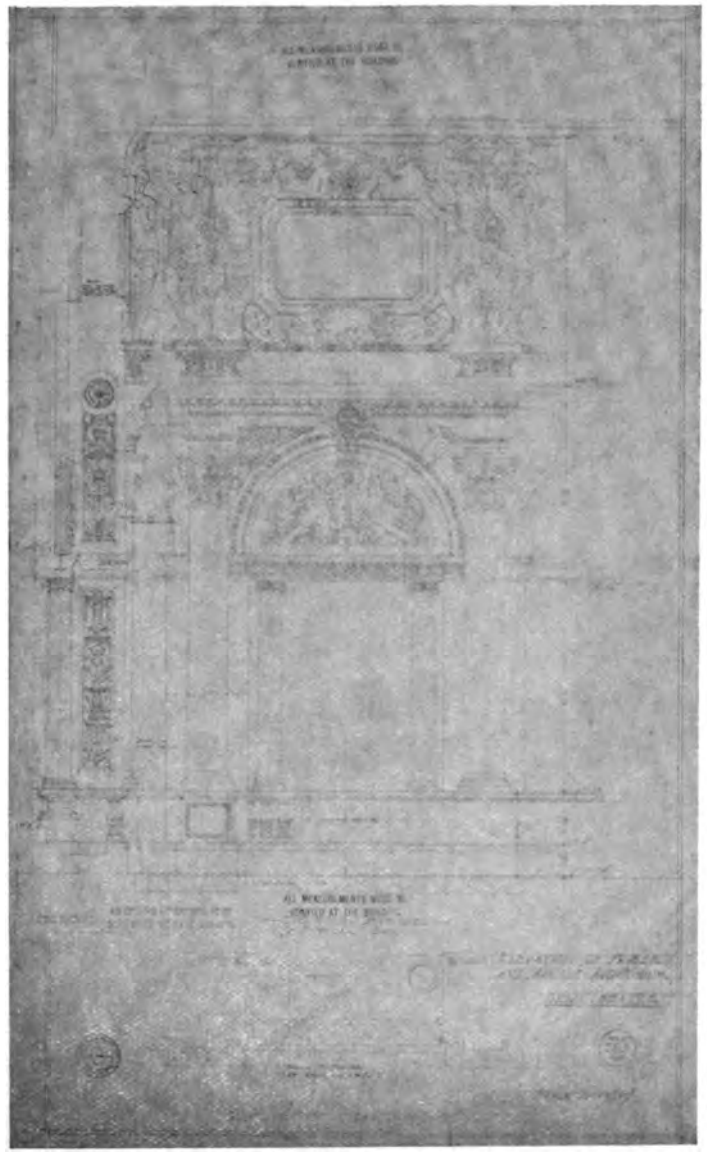
CARRÈRE & HASTINGS, ARCHITECTS

Photo. Miss Frances B. Johnston. Copyright 1909 by The New Theatre

Central Pavilion of Roof Garden



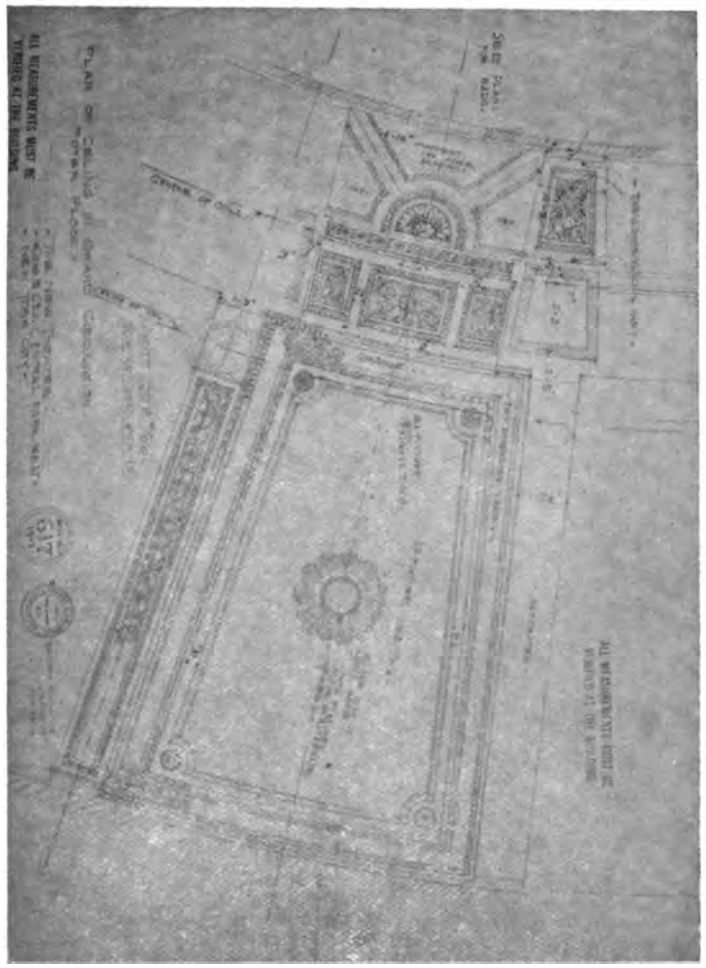




Carrere & Hastings, Architects

Plan of Typical Bay Developed

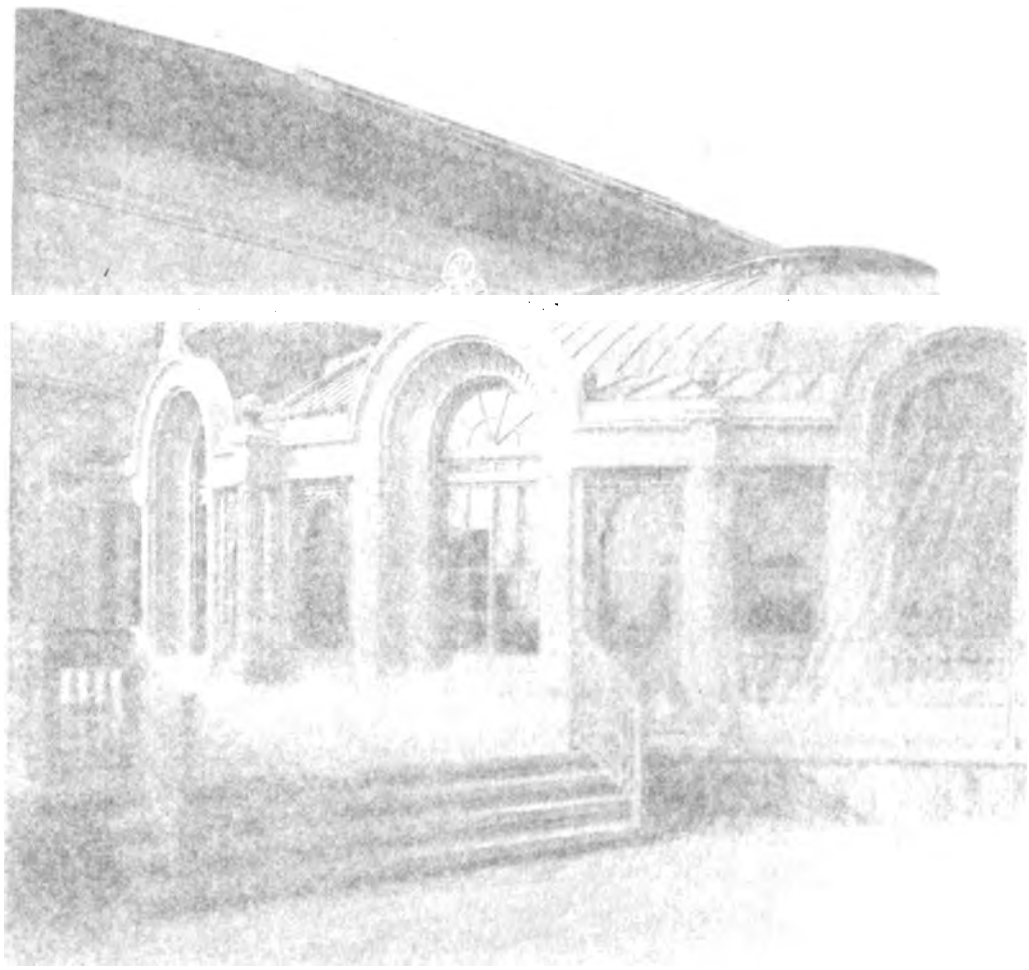
THE NEW THEATRE



Carrere & Hastings, Architects

Plan of Ceiling in Grand Circulation, Foyer Floor

THE NEW THEATRE



ston. Copyright 1909 by The New Theatre

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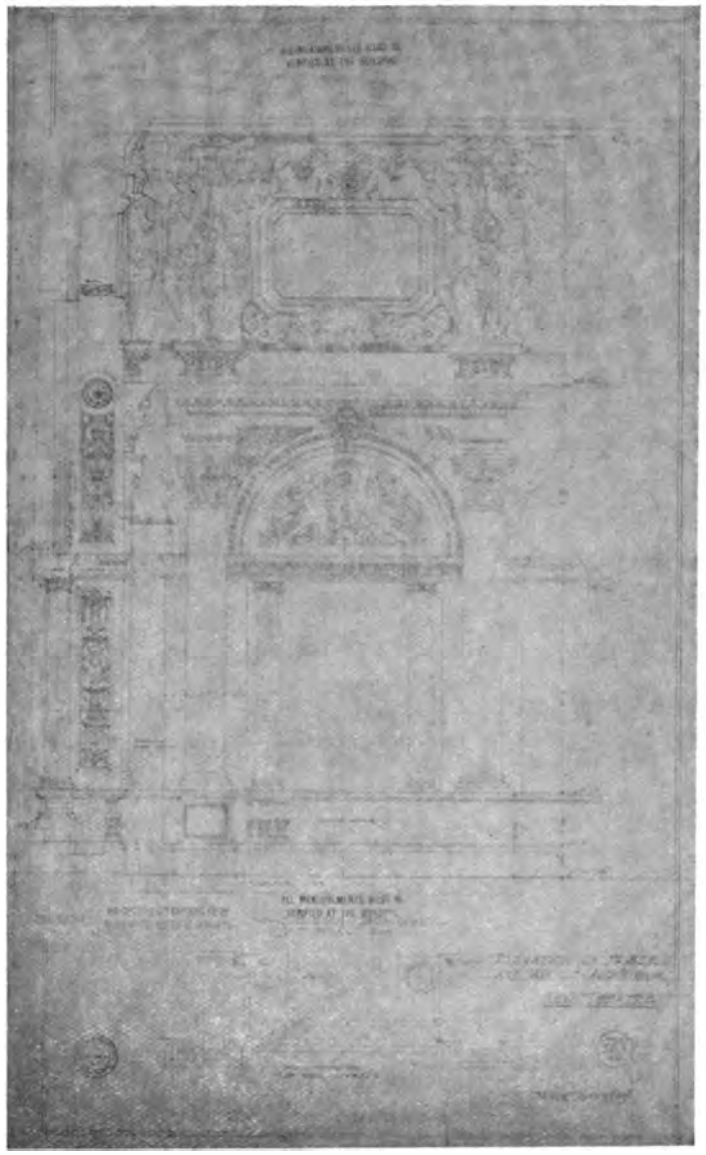
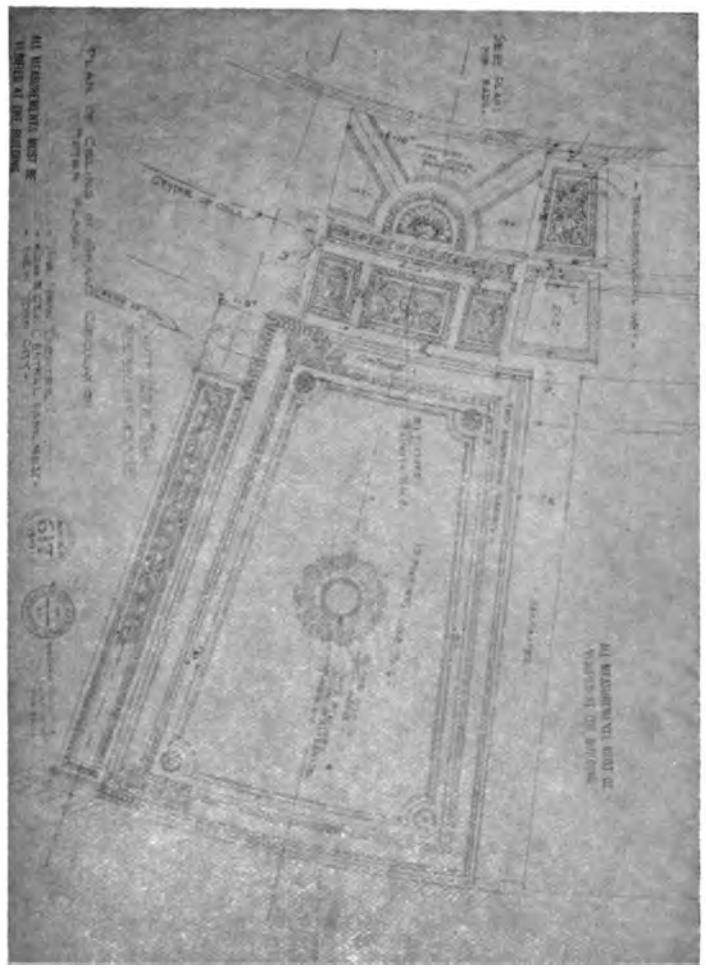


Carrere & Hastings, Architects

Plan of Typical Bay Developed

THE NEW THEATRE



Carrere & Hastings, Architects

Plan of Ceiling in Grand Circulation, Foyer Floor

THE NEW THEATRE

CARRÉRE & HASTINGS, ARCHITECTS

Photo. Miss Frances B. Johnston, Copyright 1909, by The New Theatre

Secondary Panel of Foyer Ceiling

Carrere & Hastings, Architects

PAYER FLOOR

Detail of Grille Construction Showing Grounds Stages

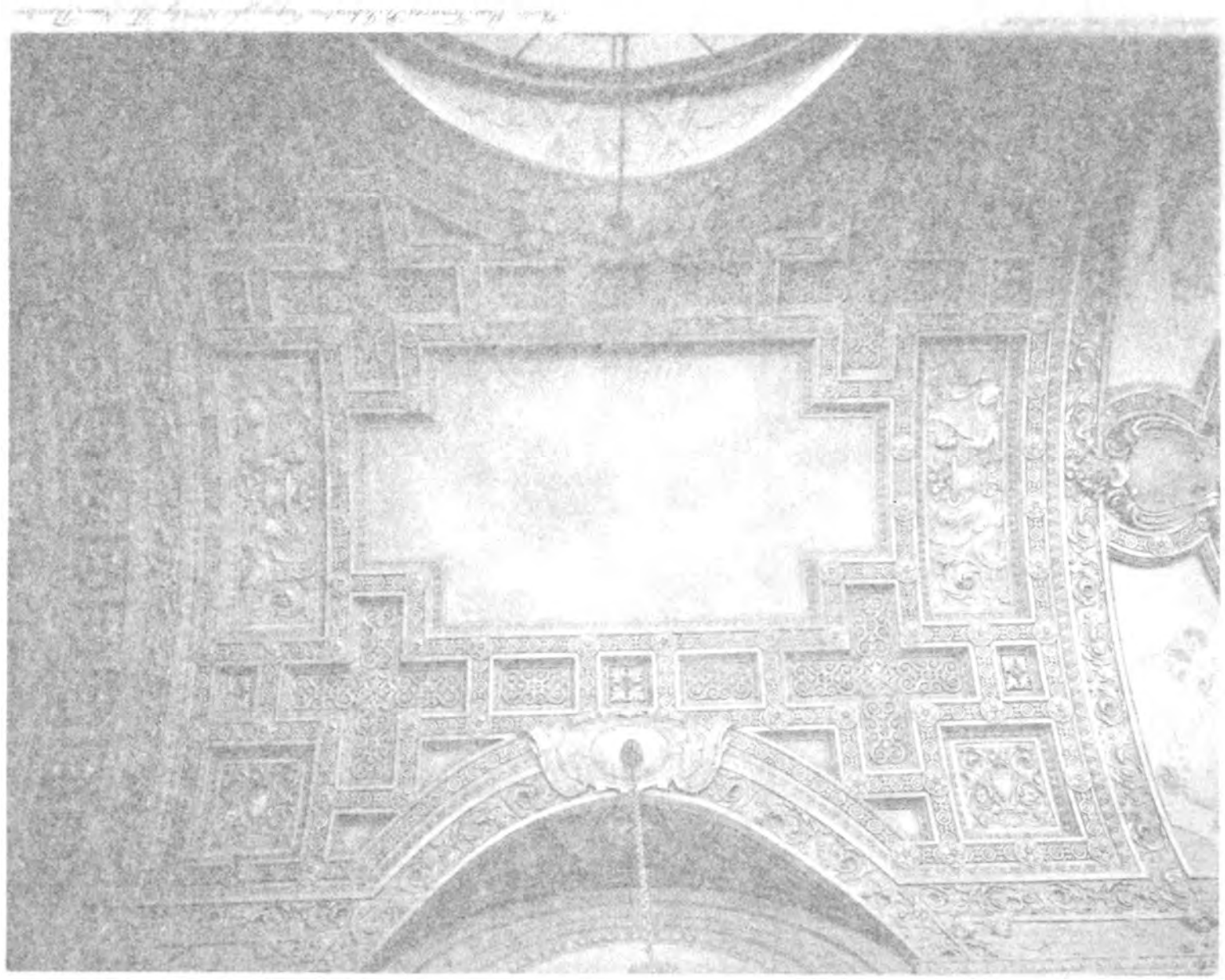
from Orchestra Section to Boxes

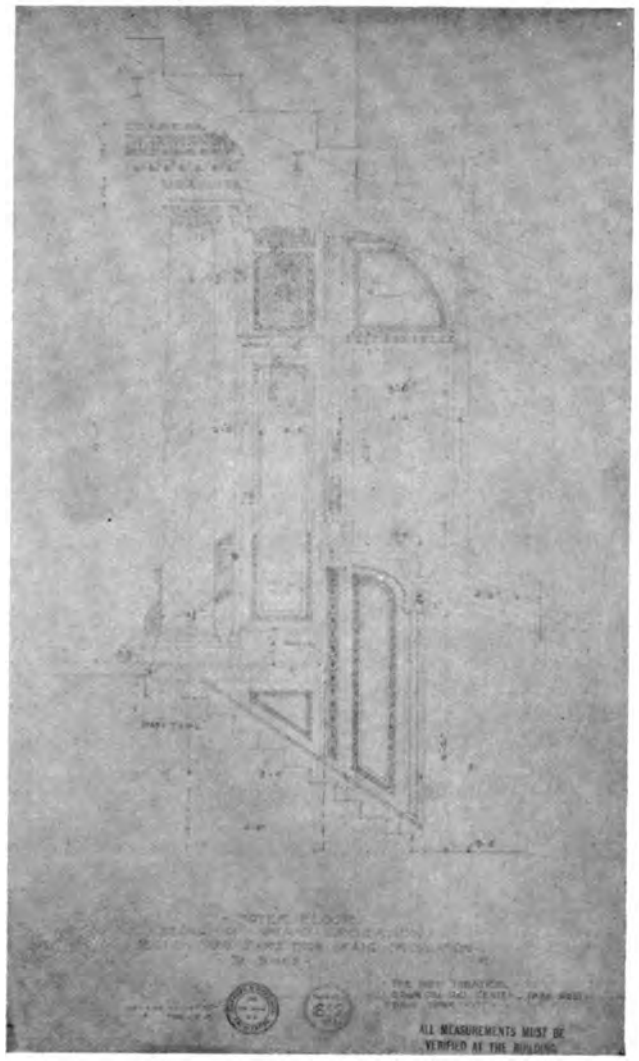
THE NEW THEATRE

Carrere & Hastings, Architects

Drawing showing Canopy and Grille over Dress Circle Box

THE NEW THEATRE





Carrere & Hastings, Architects

FOYER FLOOR
Detail of Grand Circulation Section through Stairs
from Grand Circulation to Boxes

THE NEW THEATRE

Carrere & Hastings, Architects

Drawing showing Canopy and Ornament over Directors' Box

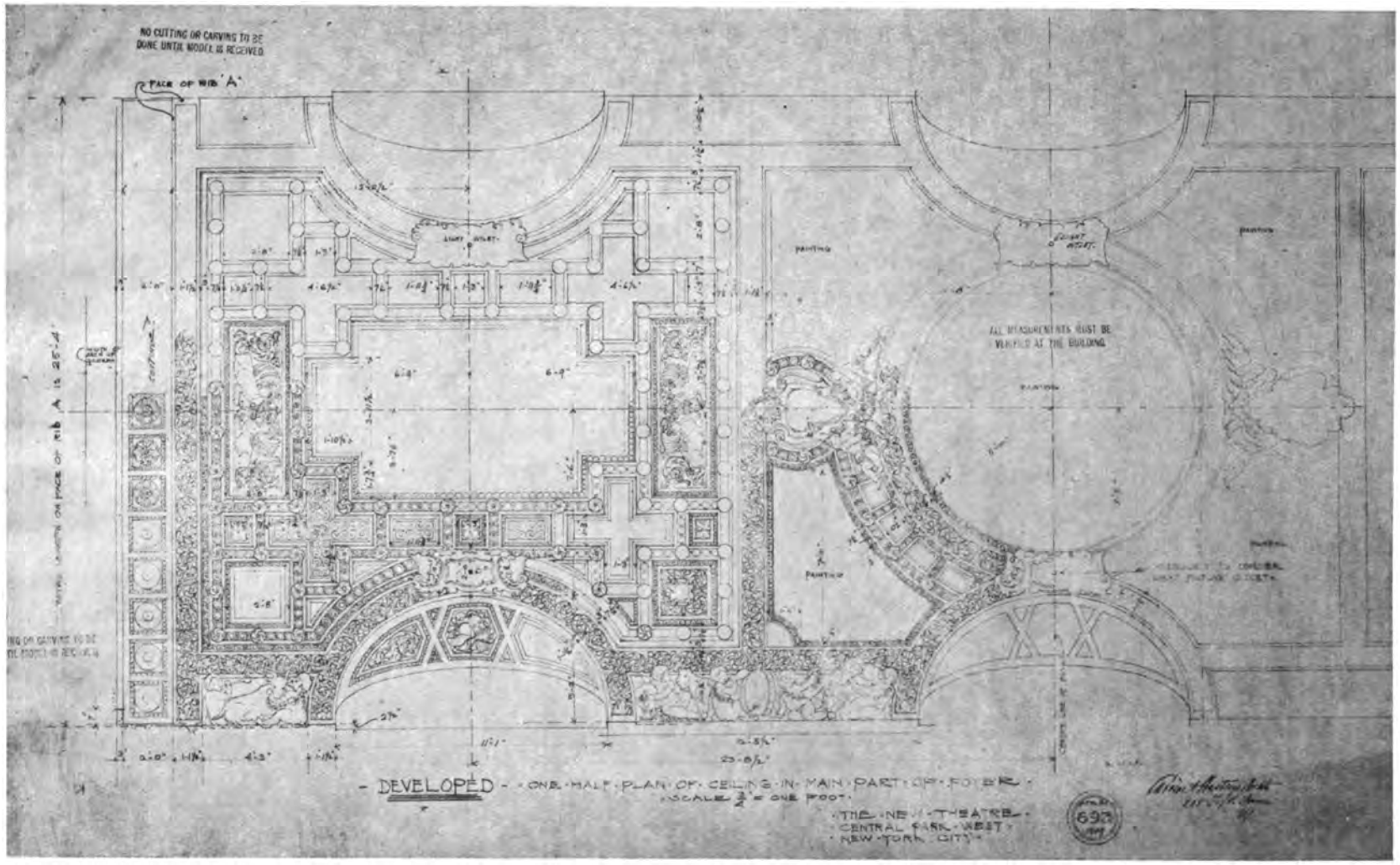
THE NEW THEATRE

CARRÈRE & HASTINGS, ARCHITECTS

Photo. Miss Frances B. Johnston. Copyright, 1909, by The New Theatre

Center Panel of Foyer Ceiling

Paintings by M. Baudry


NO CUTTING OR CARVING TO BE DONE UNTIL MODEL IS RECEIVED
FACE OF RIB 'A'
ALL MEASUREMENTS MUST BE VERIFIED AT THE BUILDING
- DEVELOPED - ONE-HALF PLAN OF CEILING IN MAIN PART OF FOYER
SCALE ½" = ONE FOOT
THE NEW THEATRE
CENTRAL PARK WEST
NEW YORK CITY

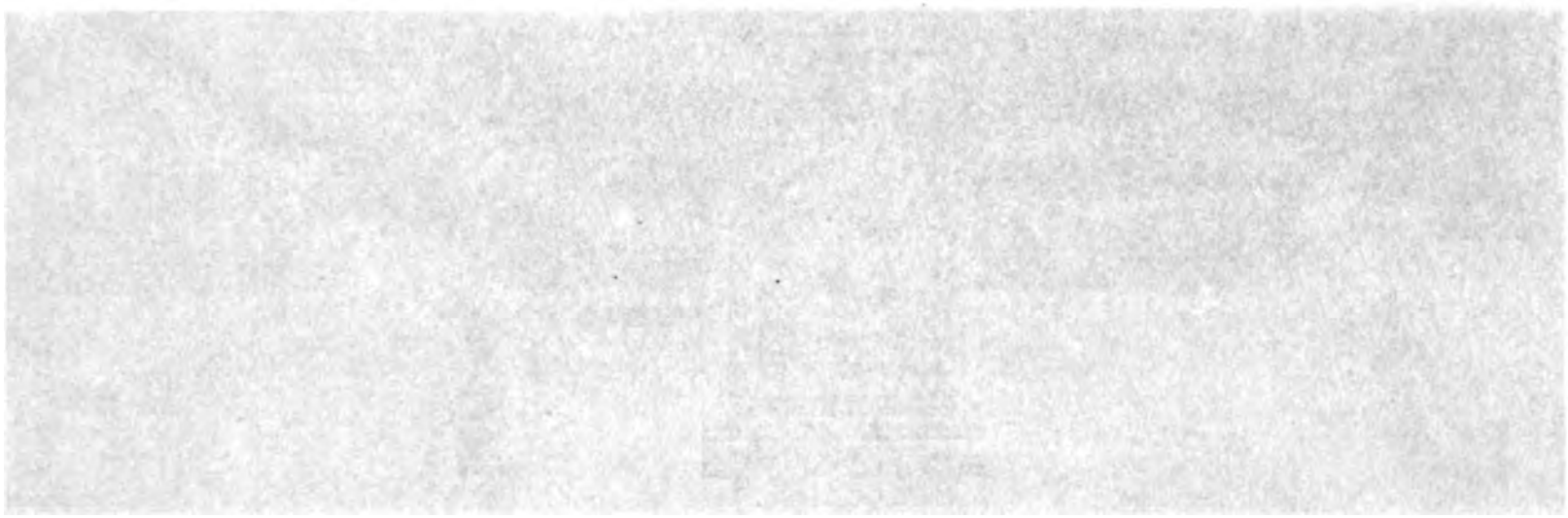
Carrere & Hastings
Architects

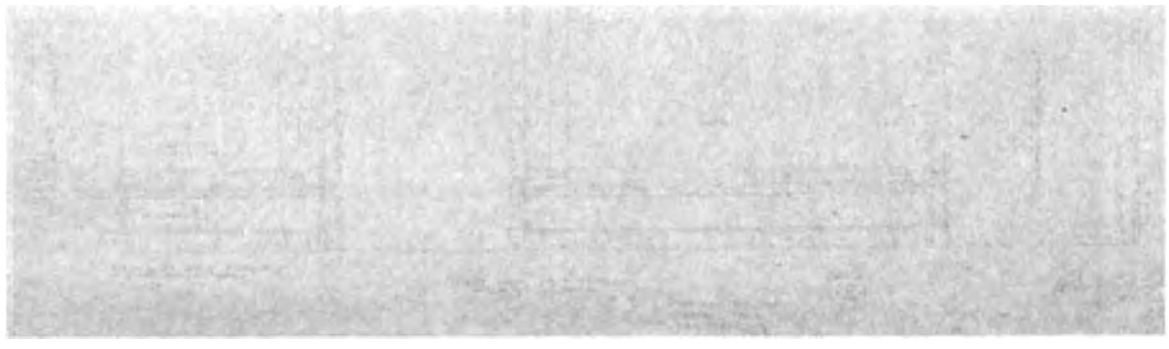
One-half plan of Ceiling in Main Part of Foyer
THE NEW THEATRE

CARRÈRE & HASTINGS, ARCHITECTS

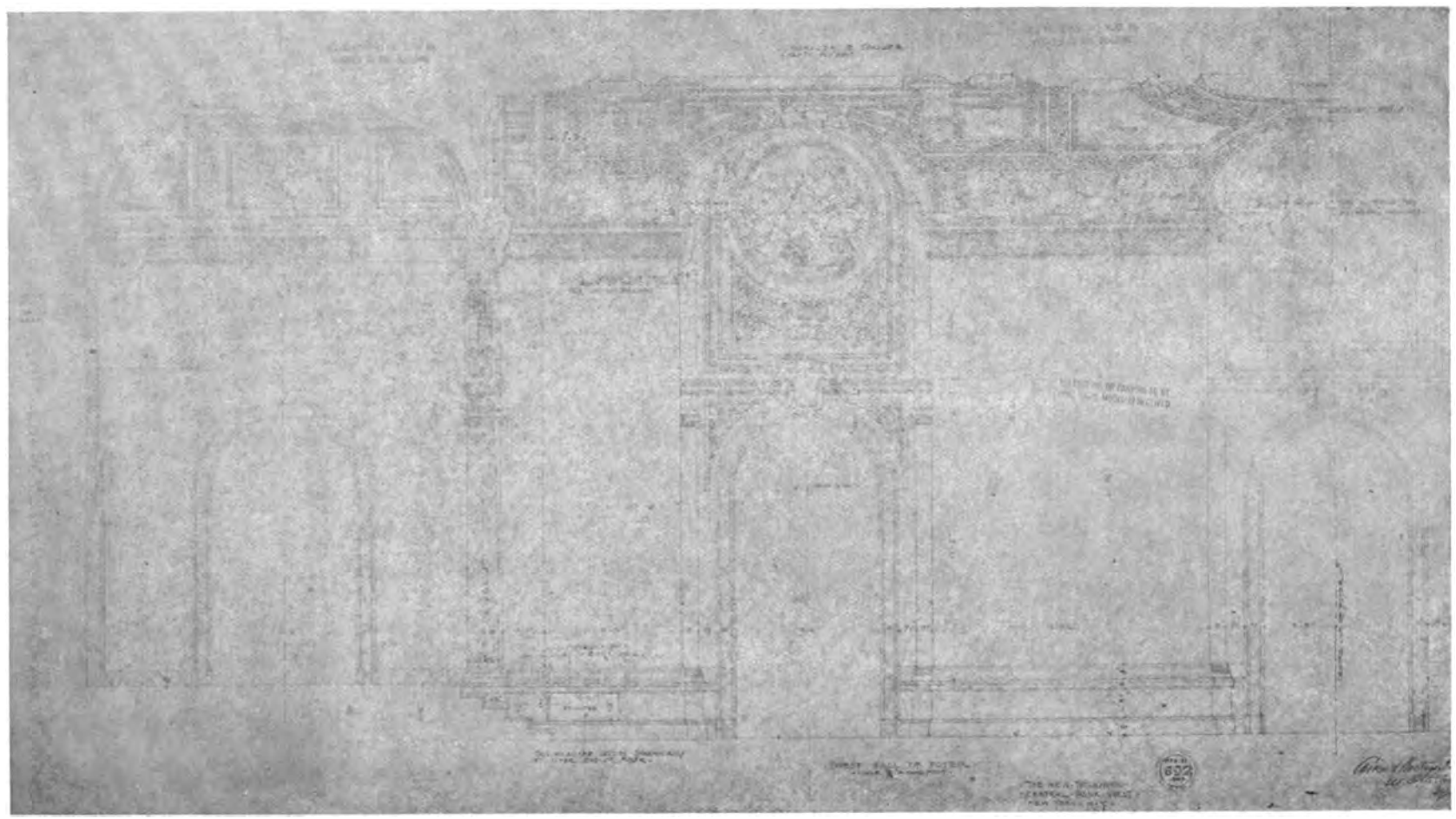
Photo. Miss Frances B. Johnston. Copyright 1909 by The New Theatre

General view of Foyer





ARCHITECTS



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West Wall of Foyer
THE NEW THEATRE

CARRÈRE & HASTINGS, ARCHITECTS

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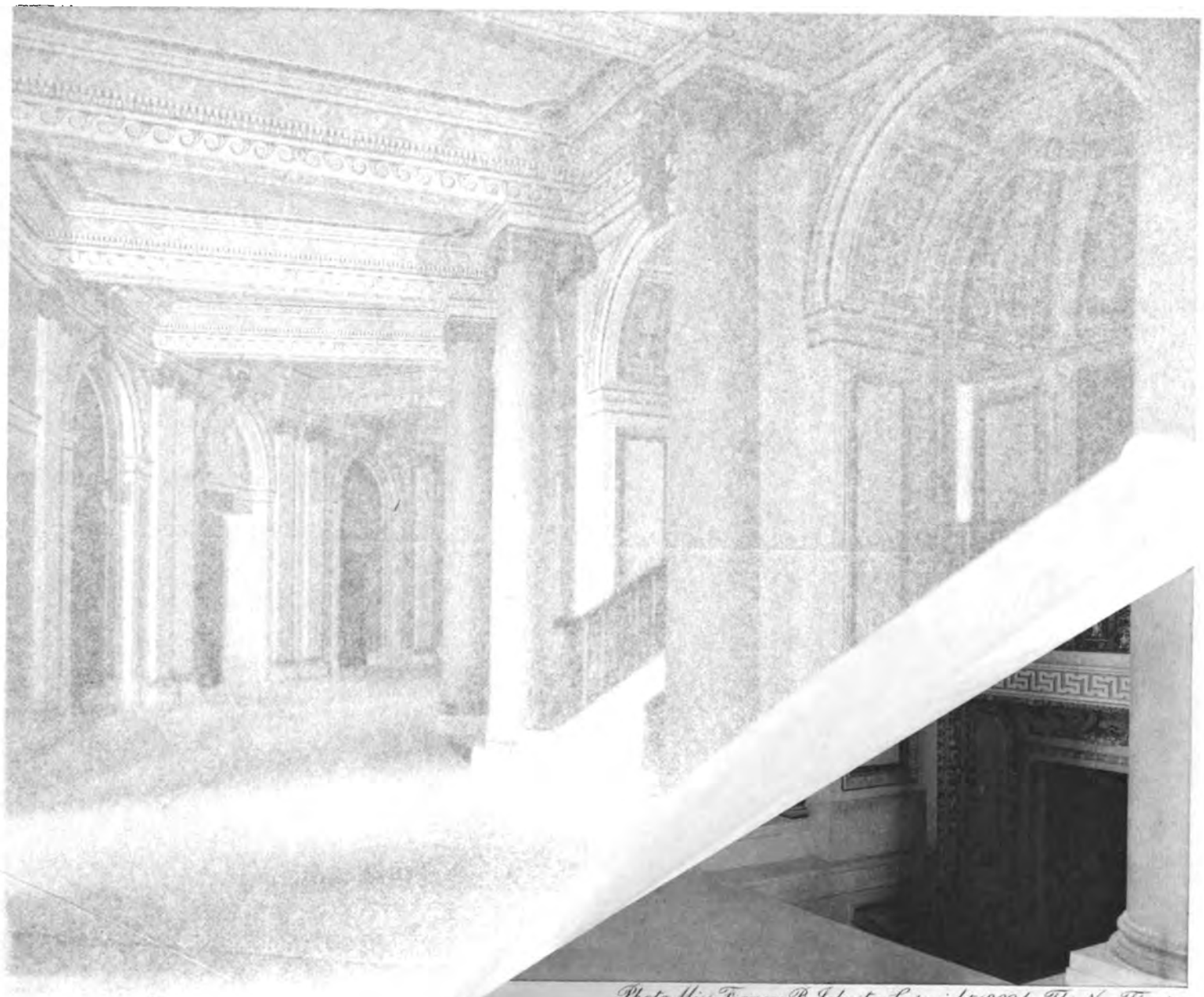
Main Foyer-Circulation



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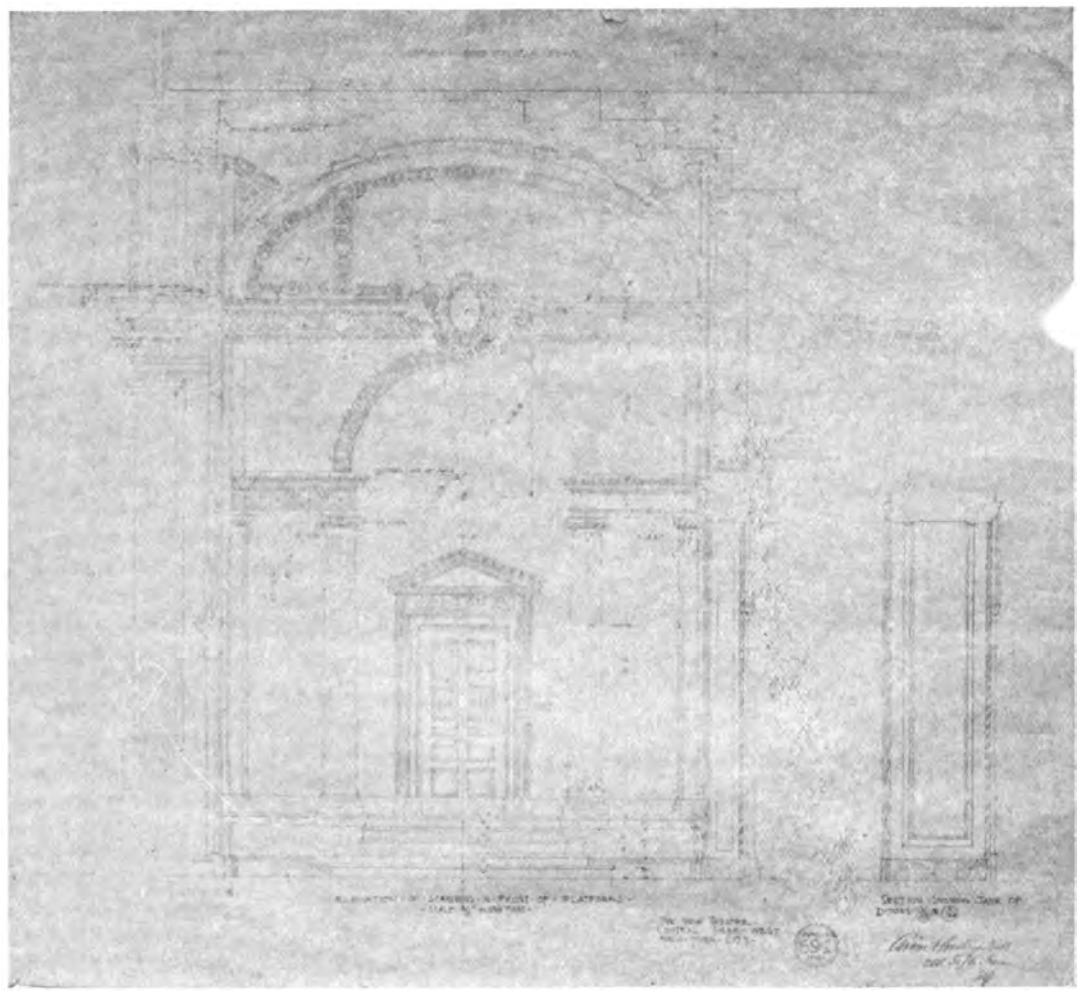
Main Foyer Circulation



Carrere & Hastings
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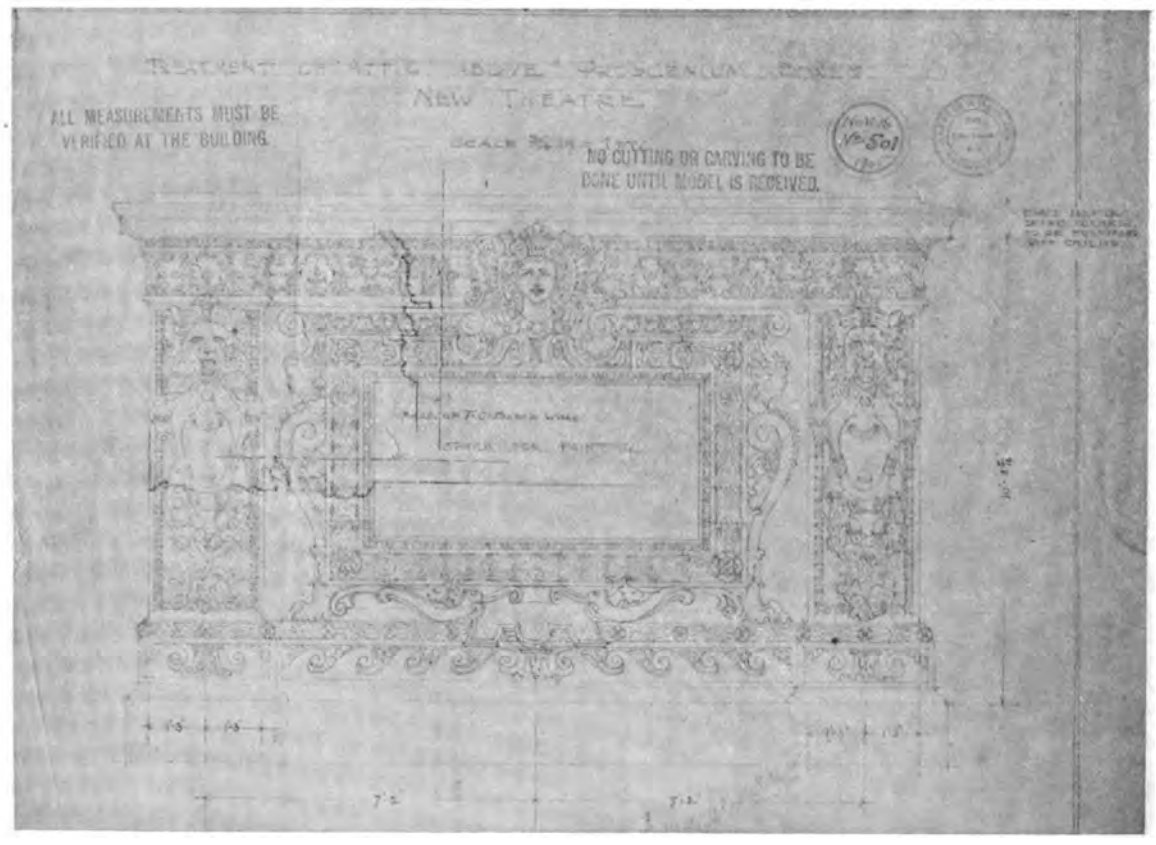
Elevation of Screens in front of platforms.
THE NEW THEATRE



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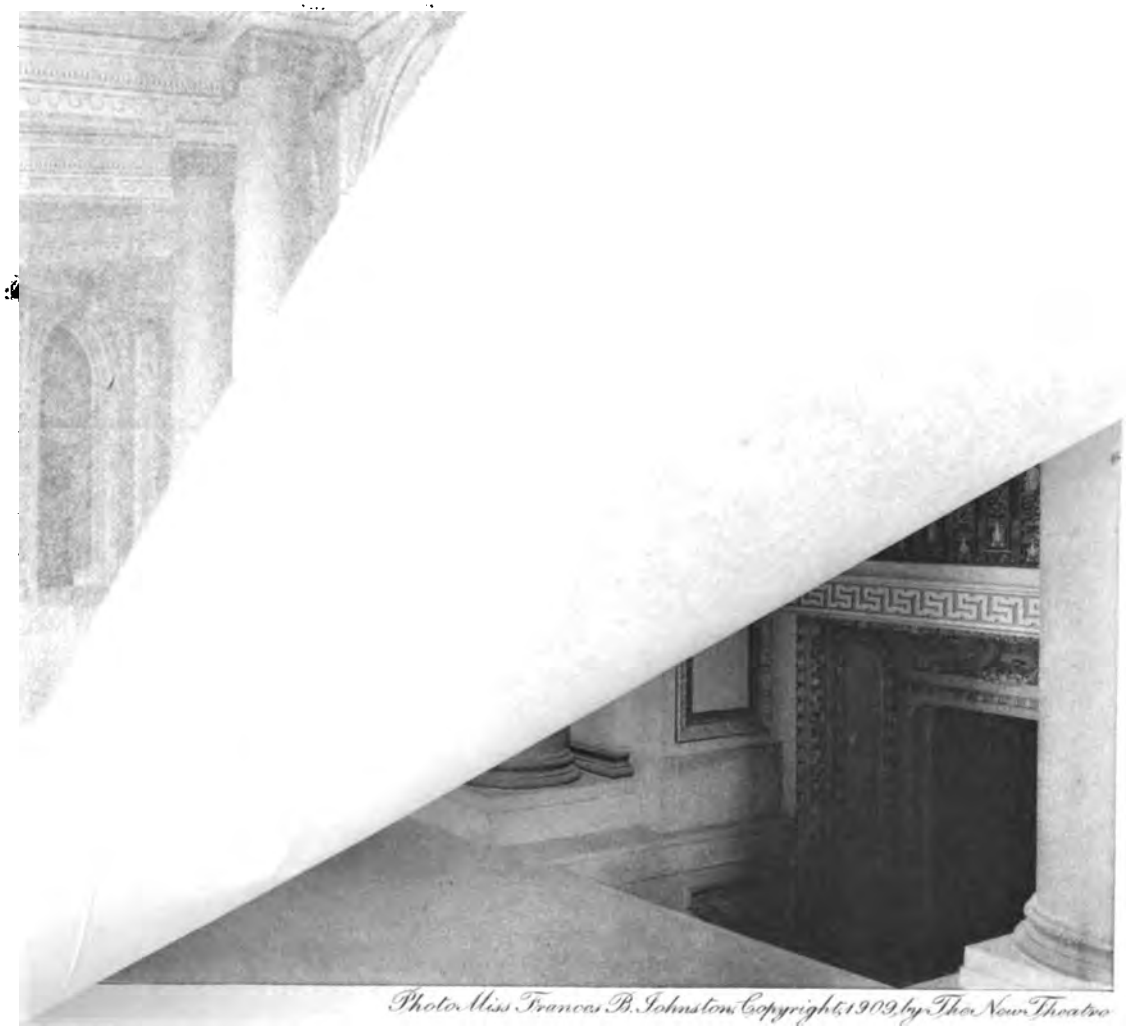
Treatment of Attic above Proscenium Boxes.
THE NEW THEATRE



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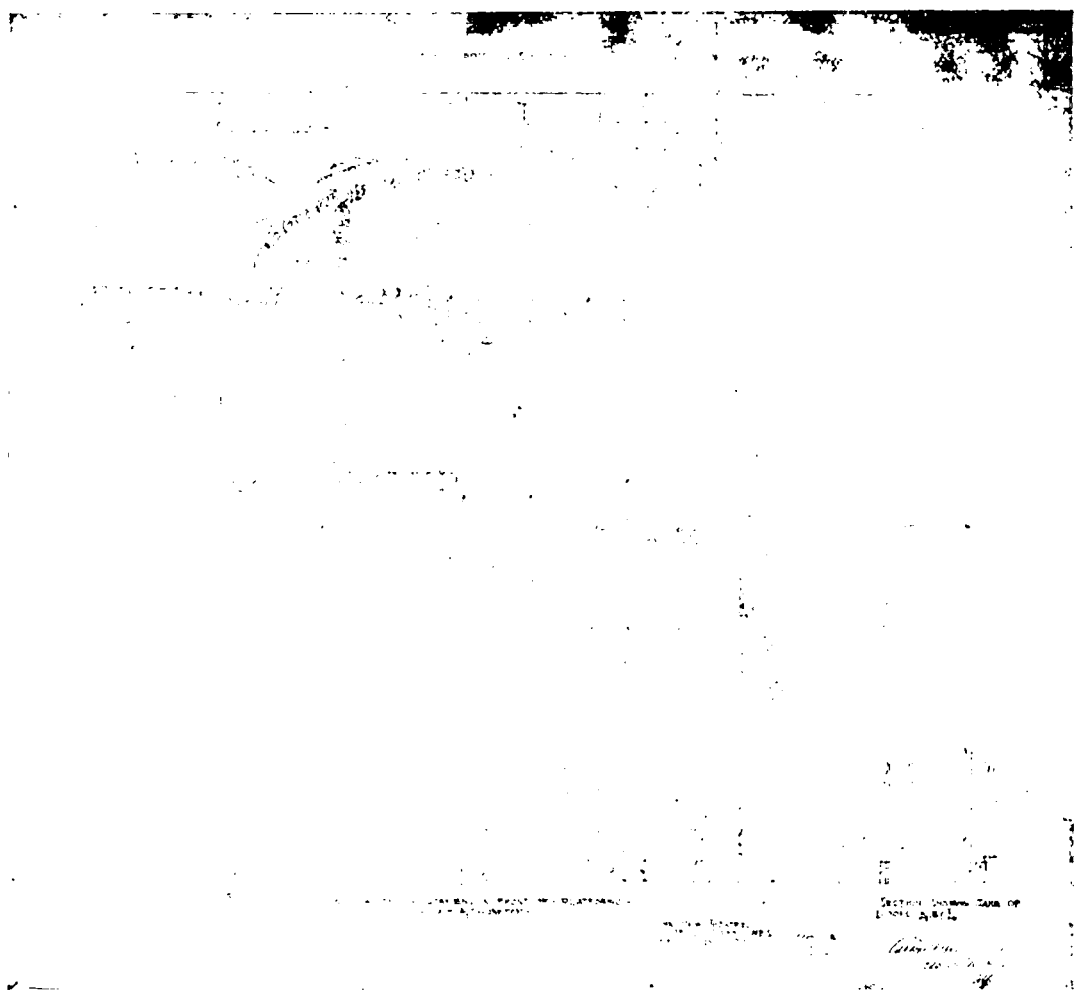
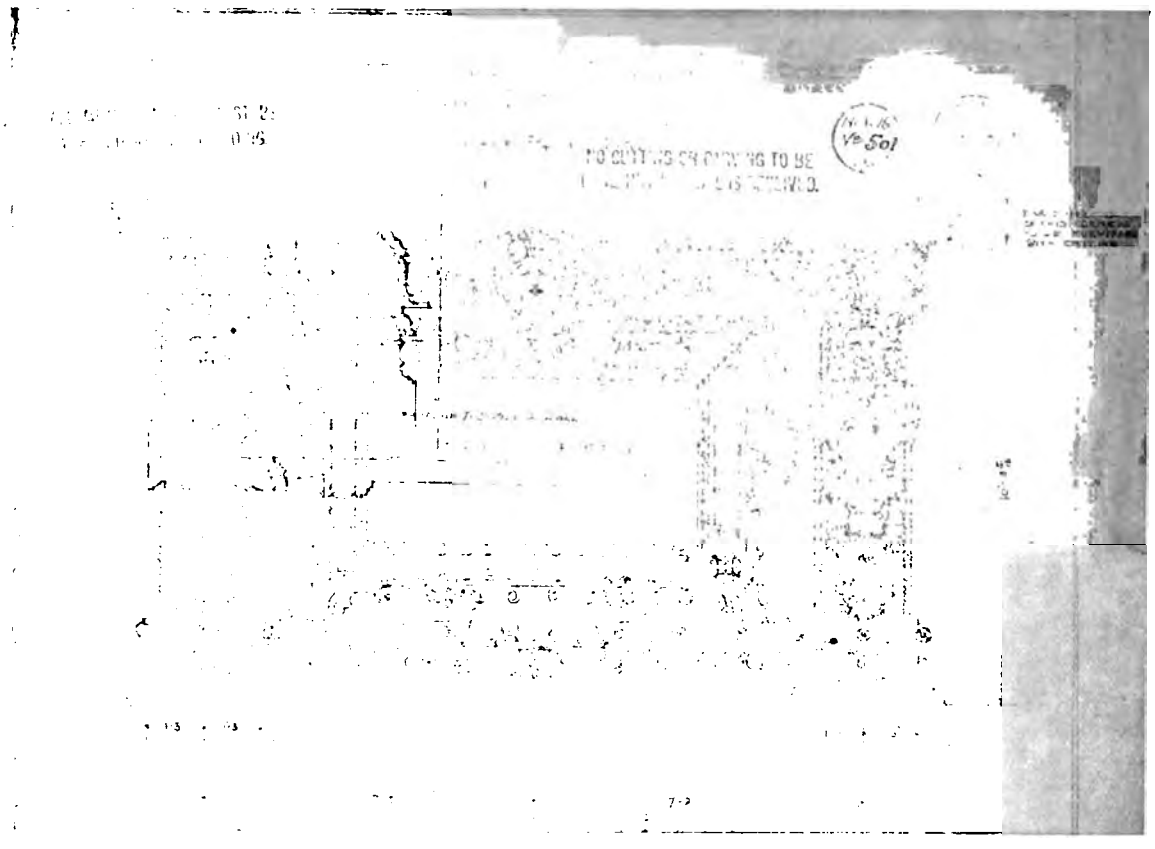
Main Foyer Circulation



Carrere & Hastings
Architects

Elevation of Screens in front of platforms
THE NEW THEATRE



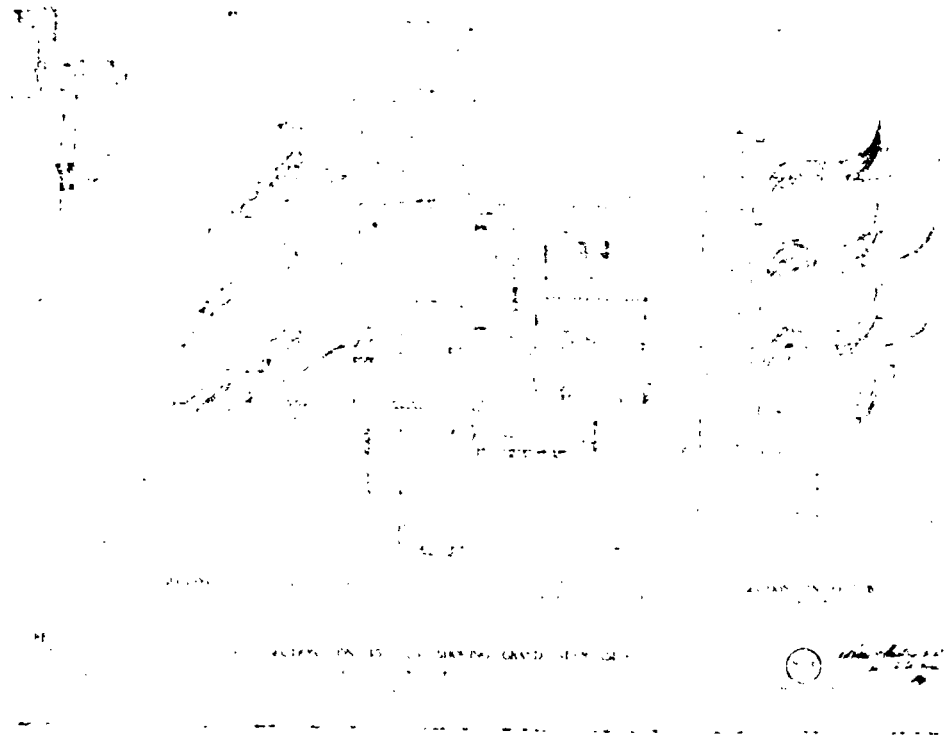
Carrere & Hastings
Architects

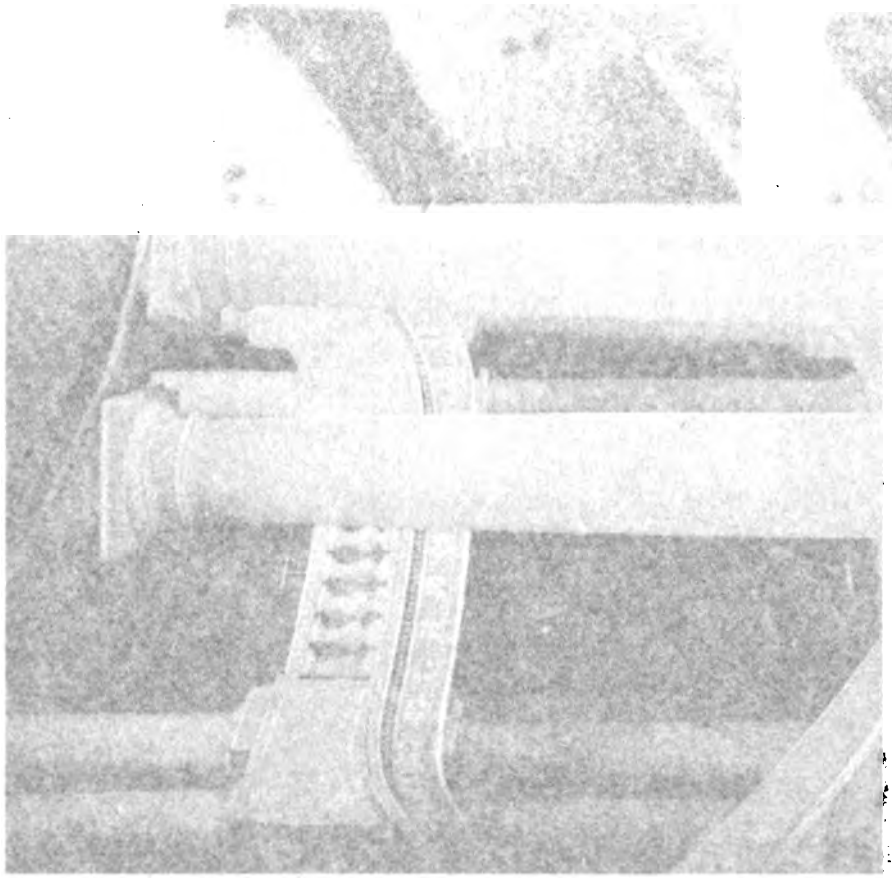
Treatment of Attic above Proscenium Boxes
THE NEW THEATRE

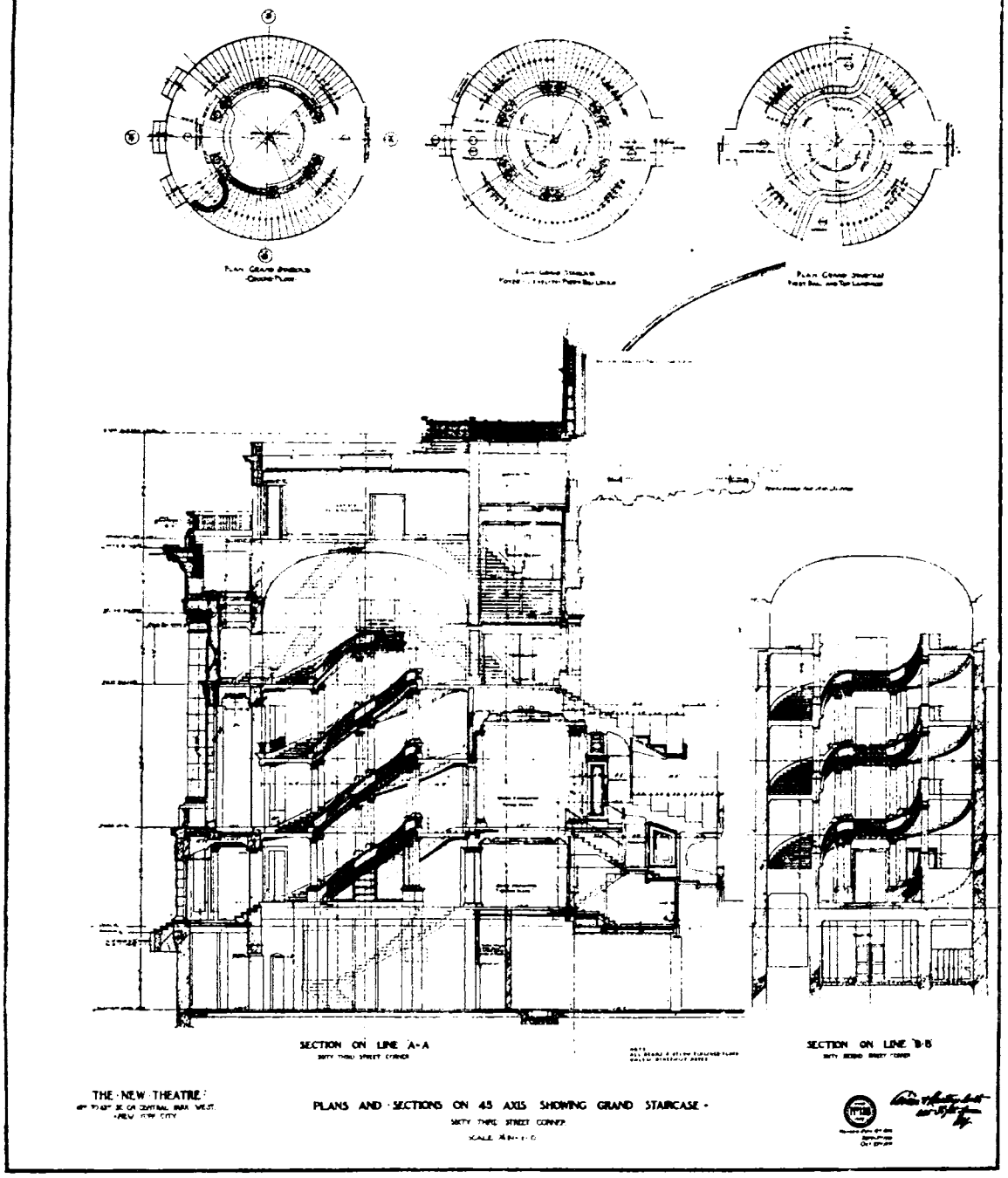
CARRÈRE & HASTINGS, ARCHITECTS

Photo. Miss Frances B. Johnston. Copyright, 1909, by The New Theatre

Entrance to Main Staircases







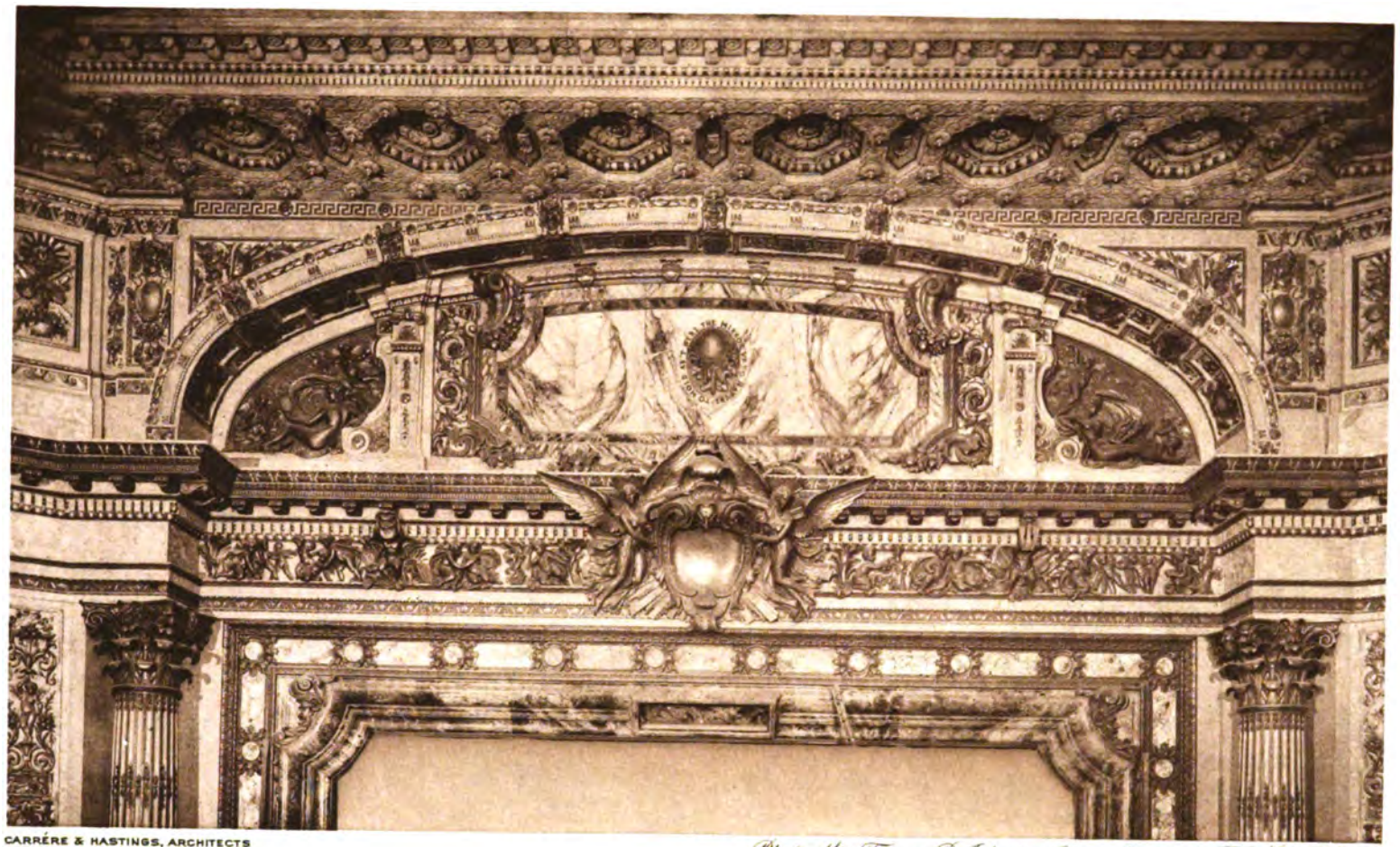
SECTION ON LINE A-A

SECTION ON LINE B-B

THE NEW THEATRE

PLANS AND SECTIONS ON 45 AXIS SHOWING GRAND STAIRCASE.

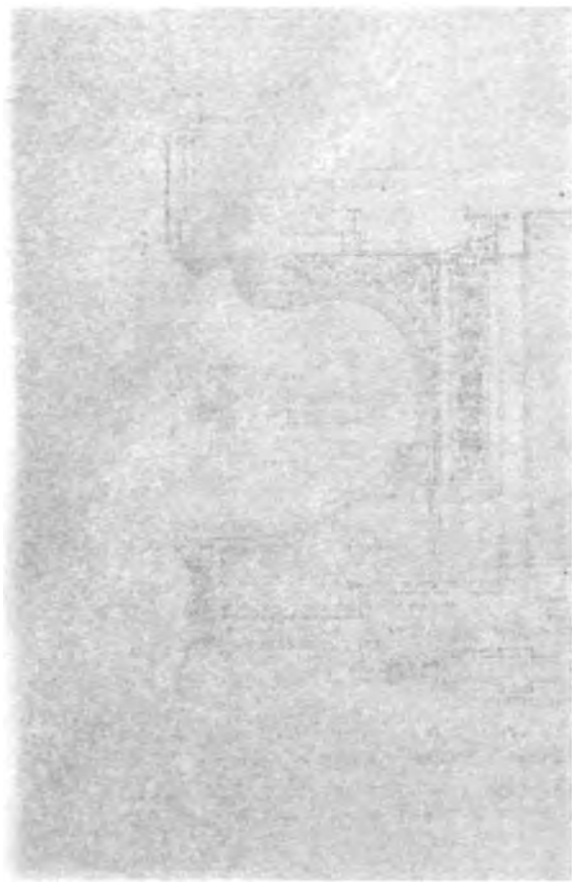
SCALE

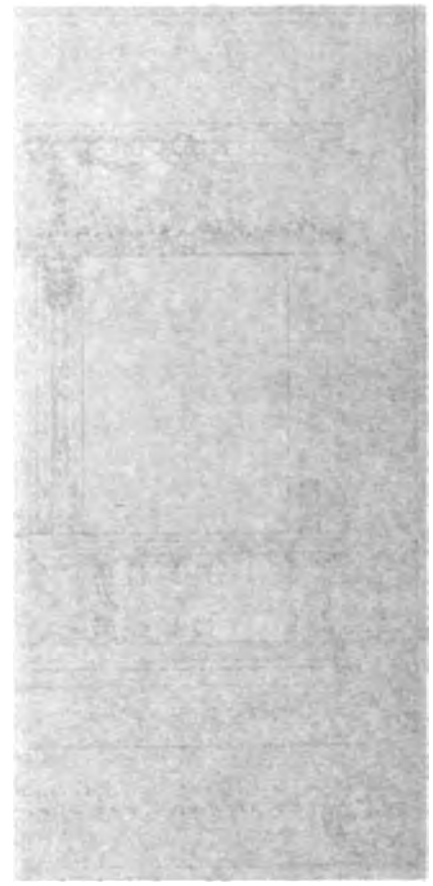


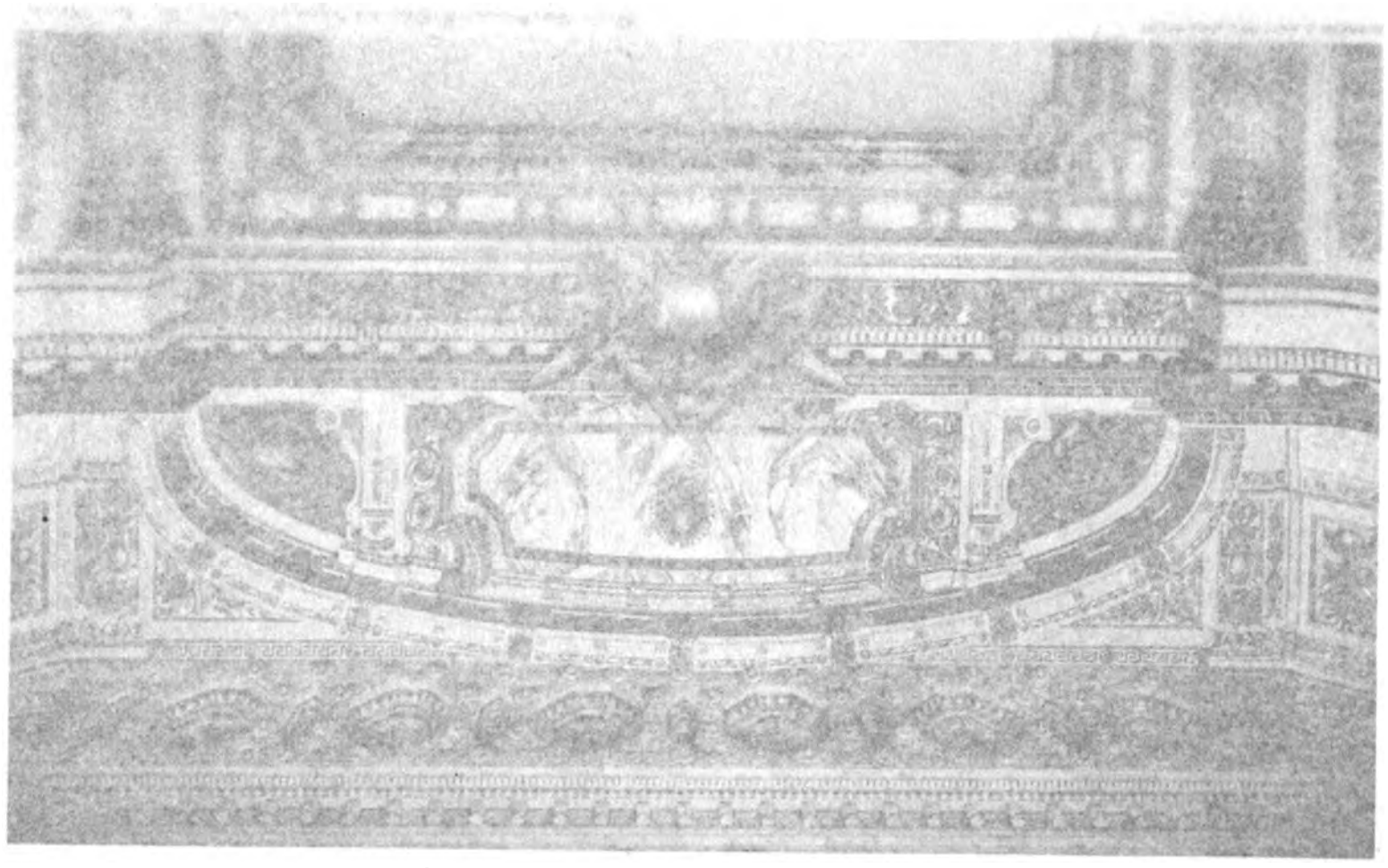
CARRÉRE & HASTINGS, ARCHITECTS

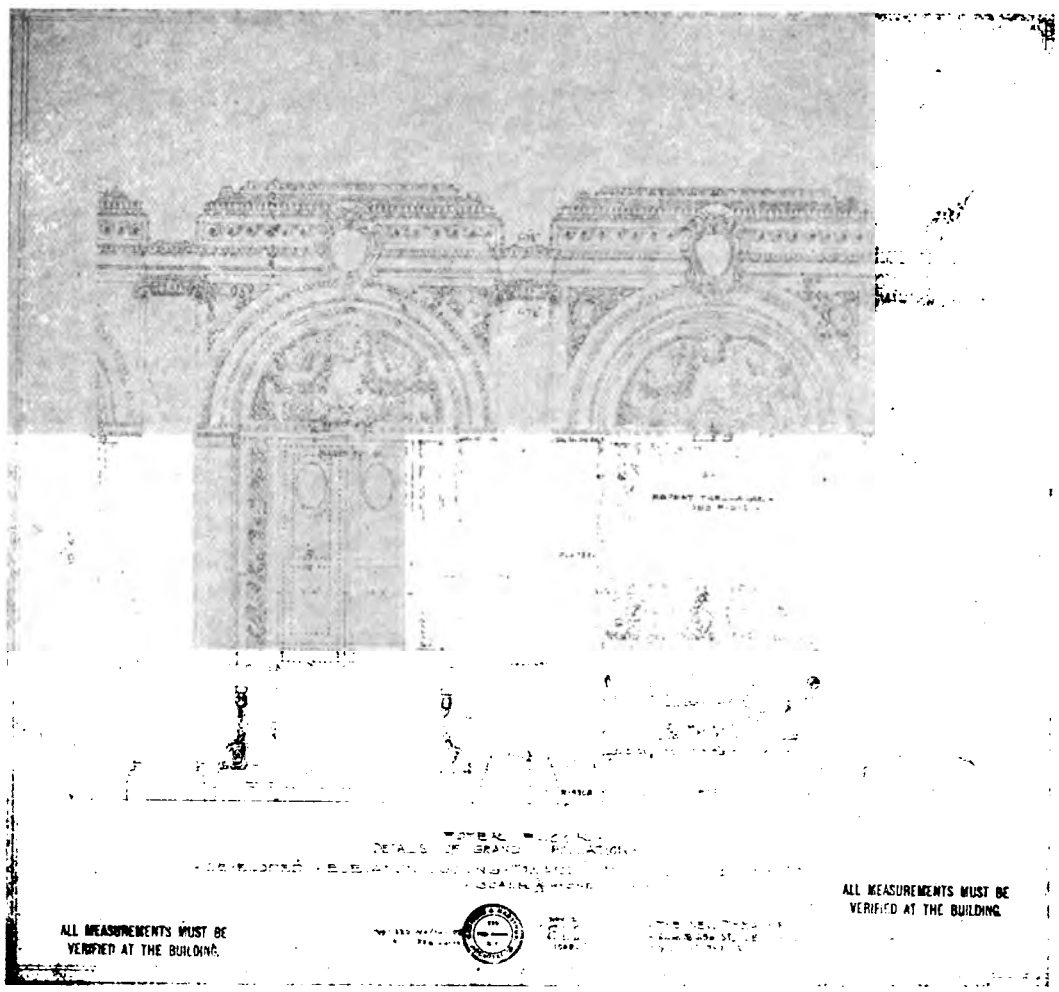
Photo Miss Frances B. Johnston, Copyright 1909, by The New Theatre

Detail of upper part of Proscenium Arch



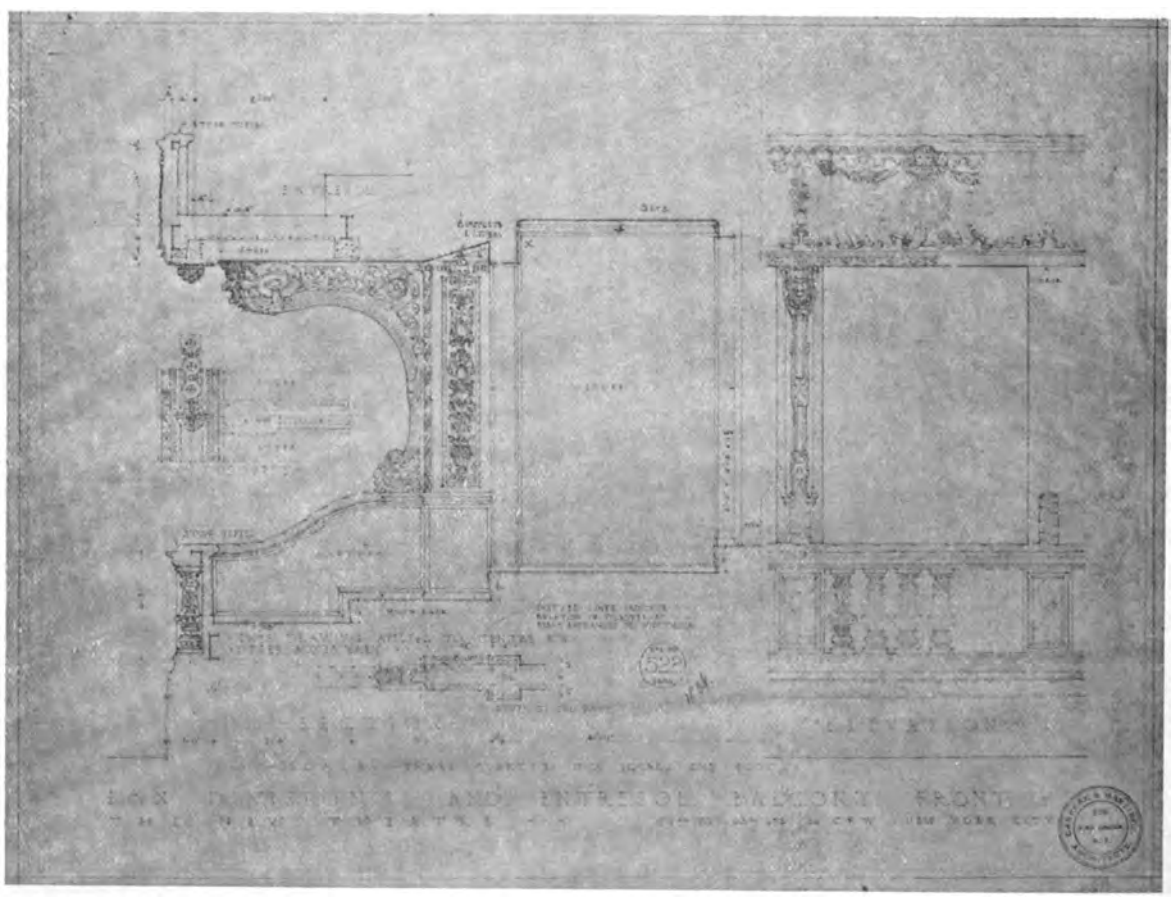






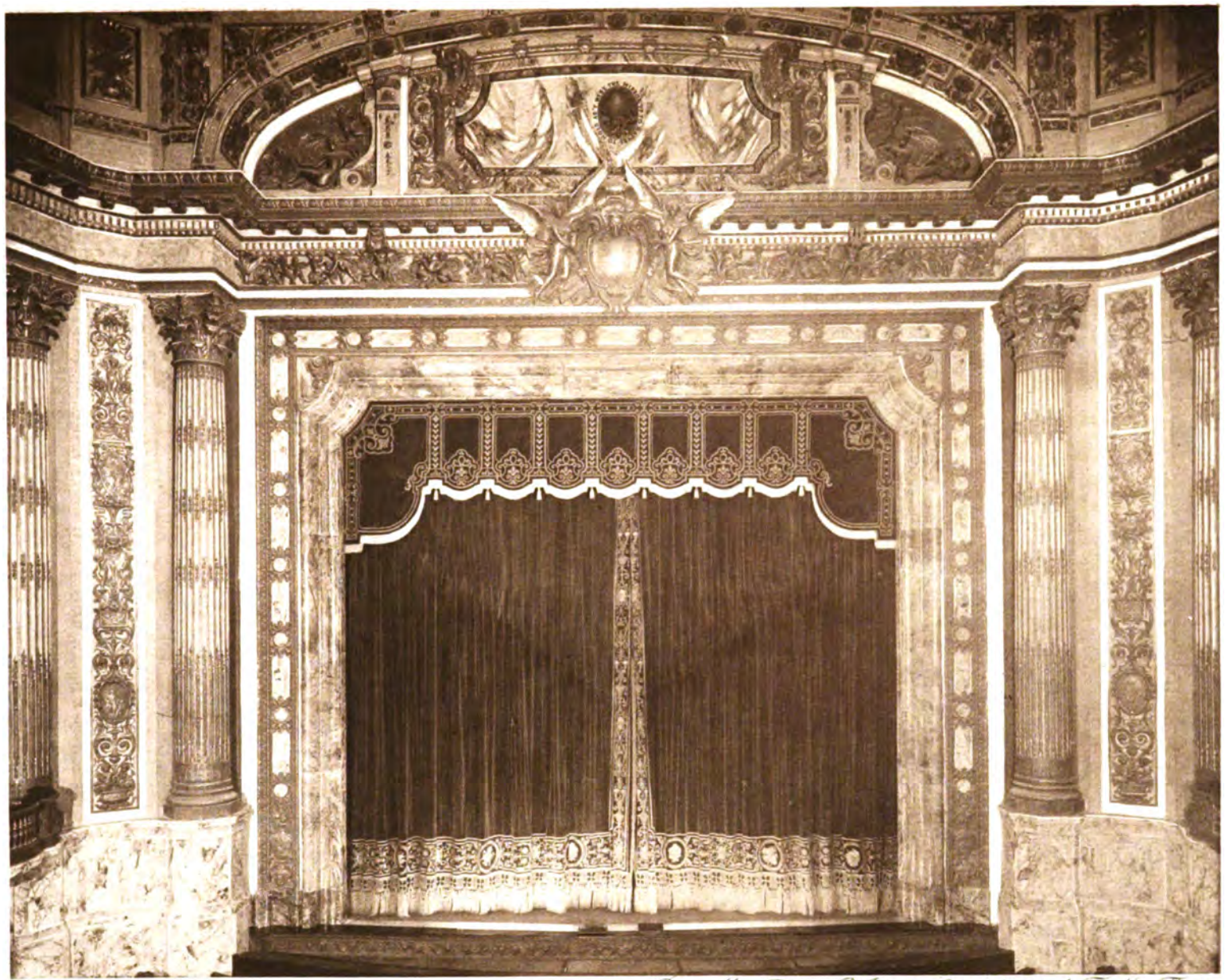
Carrere & Hastings
Architects

FOYER FLOOR
Detail of Grand Circulation
THE NEW THEATRE



Carrere & Hastings
Architects

SECTION ELEVATION
Box Divisions and Entresol Balcony Front
THE NEW THEATRE



CARRÉRE & HASTINGS, ARCHITECTS

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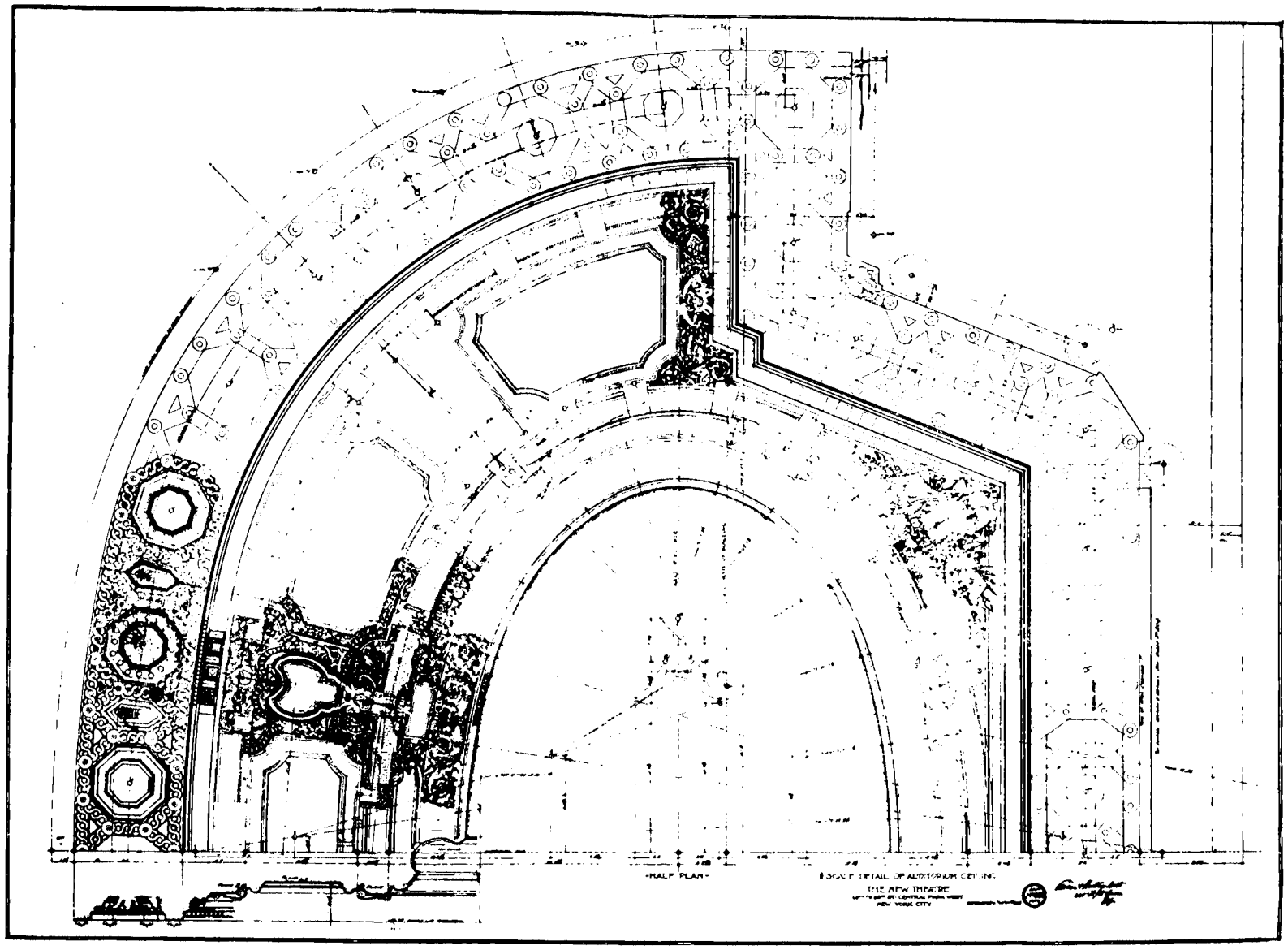
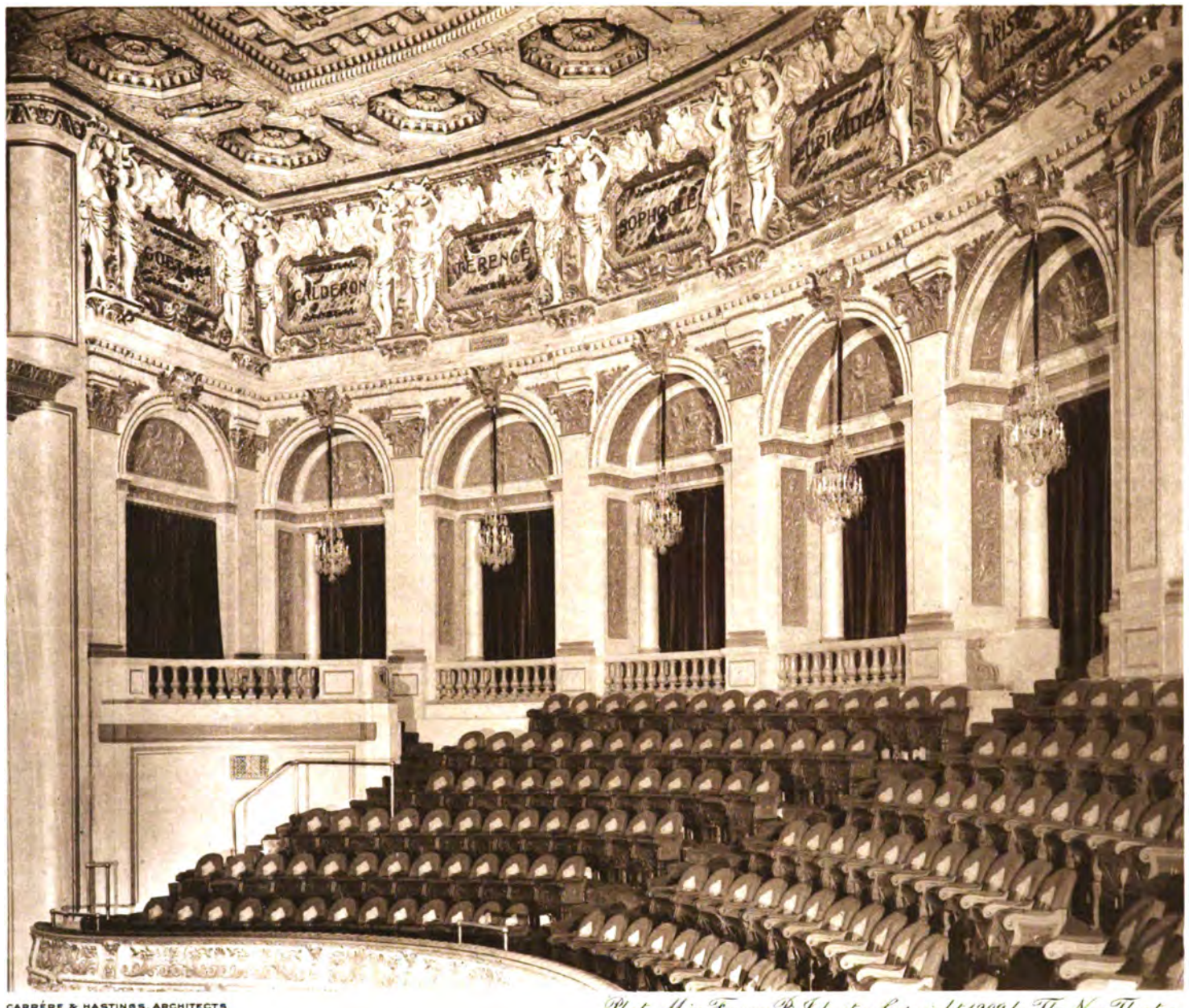
Proscenium and Curtain


HALF PLAN
SCALE DETAIL OF AUDITORIUM CEILING
THE NEW THEATRE



CARRÈRE & HASTINGS, ARCHITECTS

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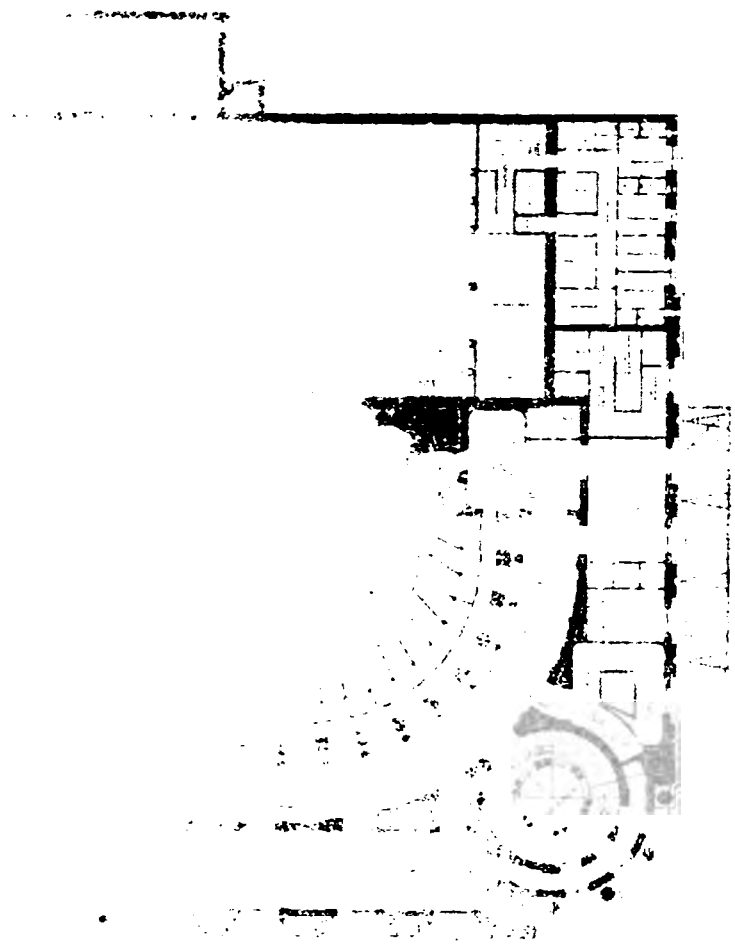
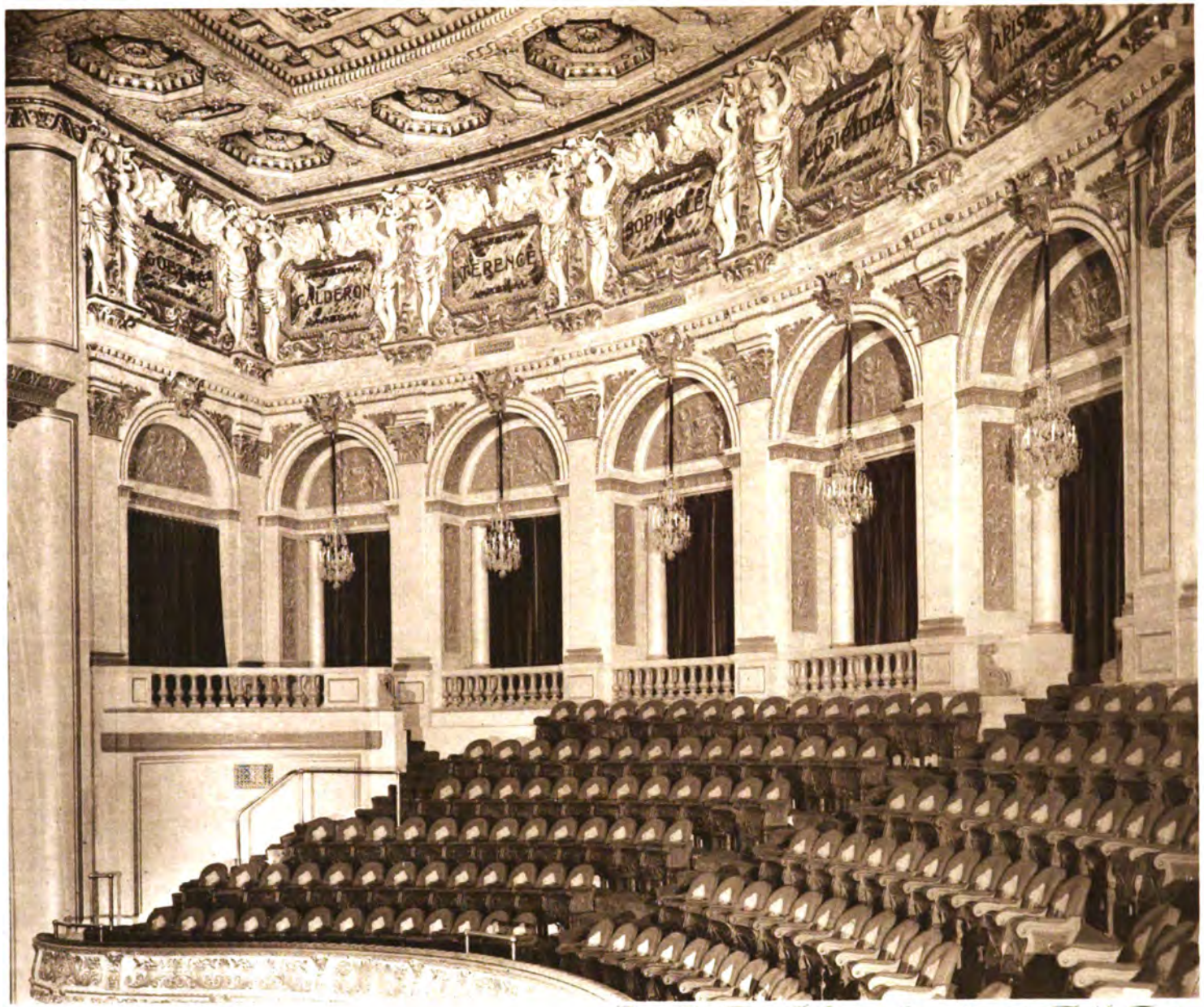
Detail of First Balcony





CARRÈRE & HASTINGS, ARCHITECTS

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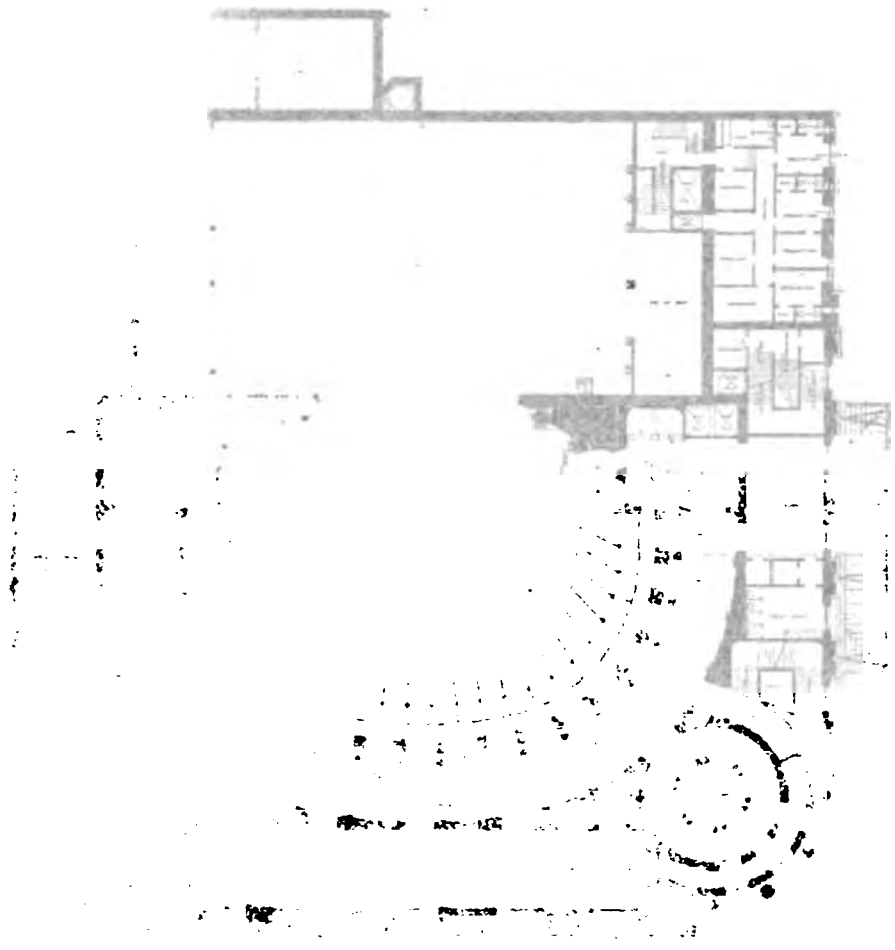
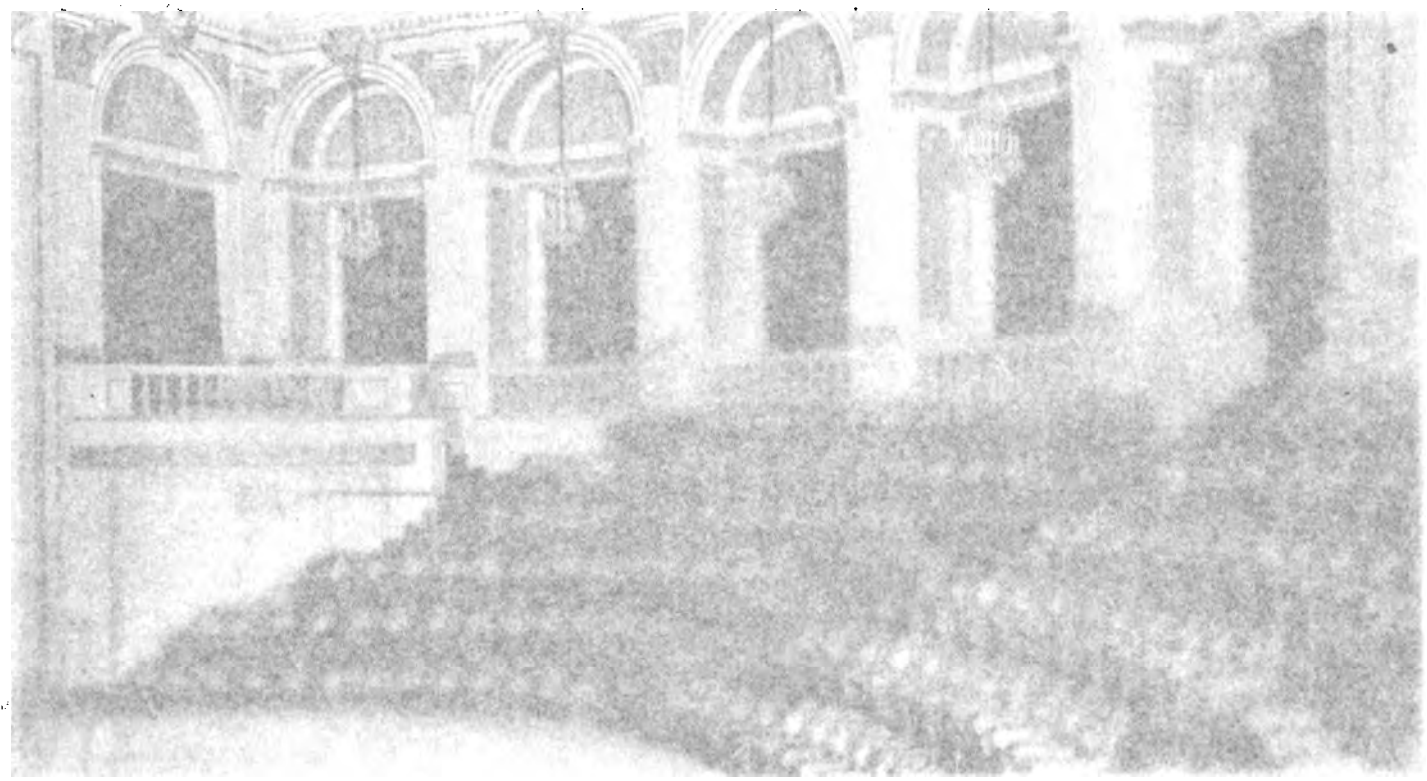
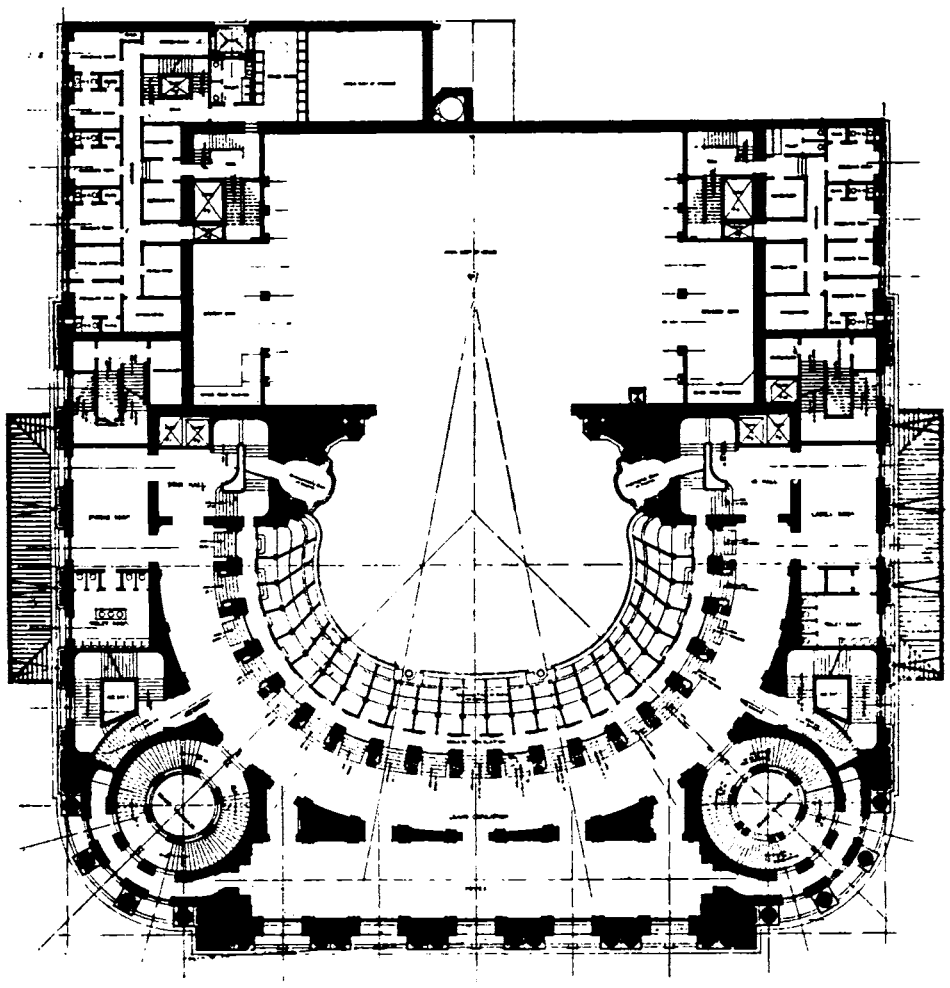
Detail of First Balcony







FOYER FLOOR PLAN

THE NEW THEATRE

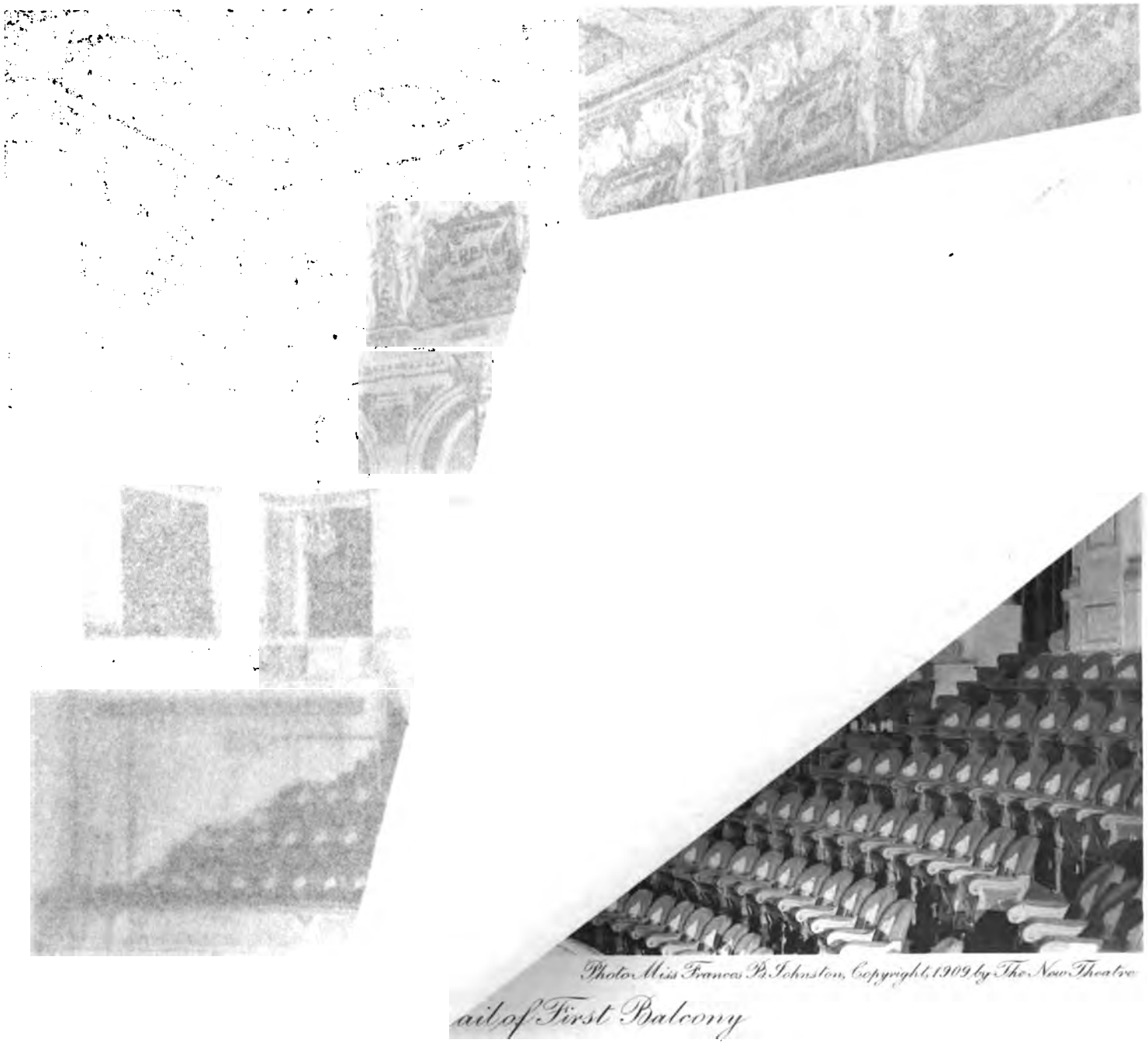
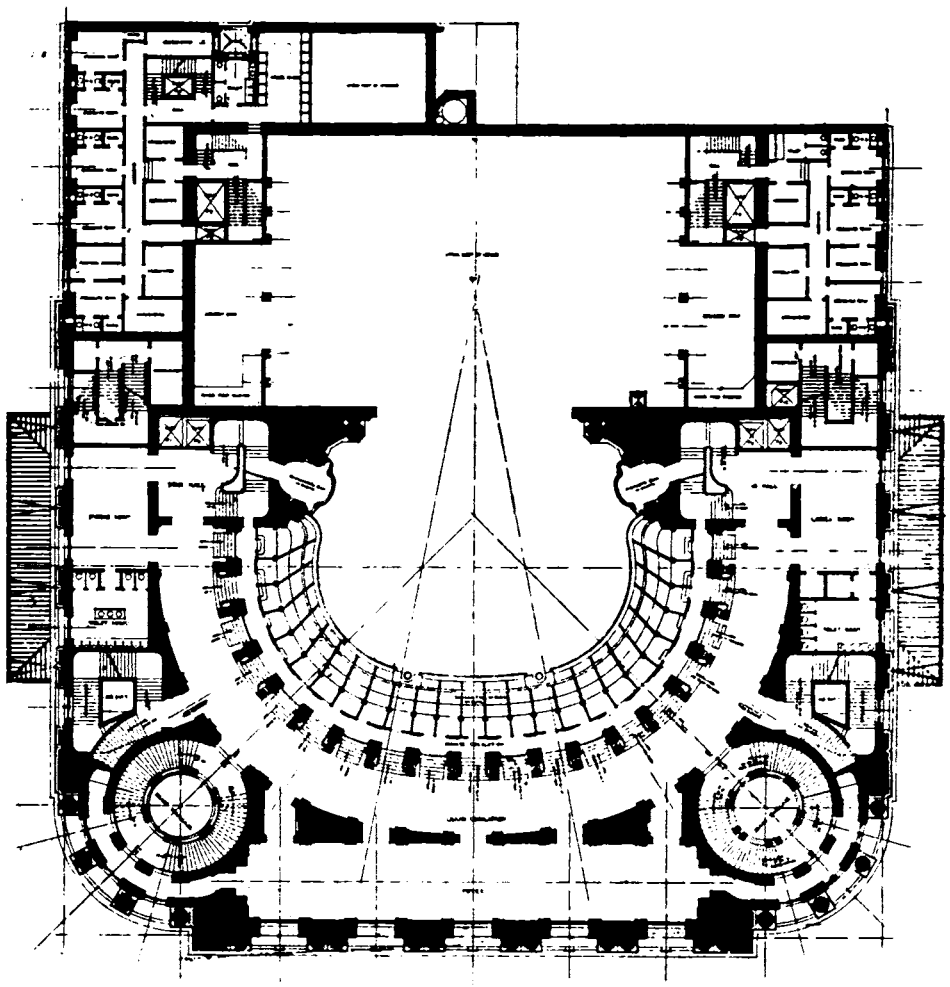


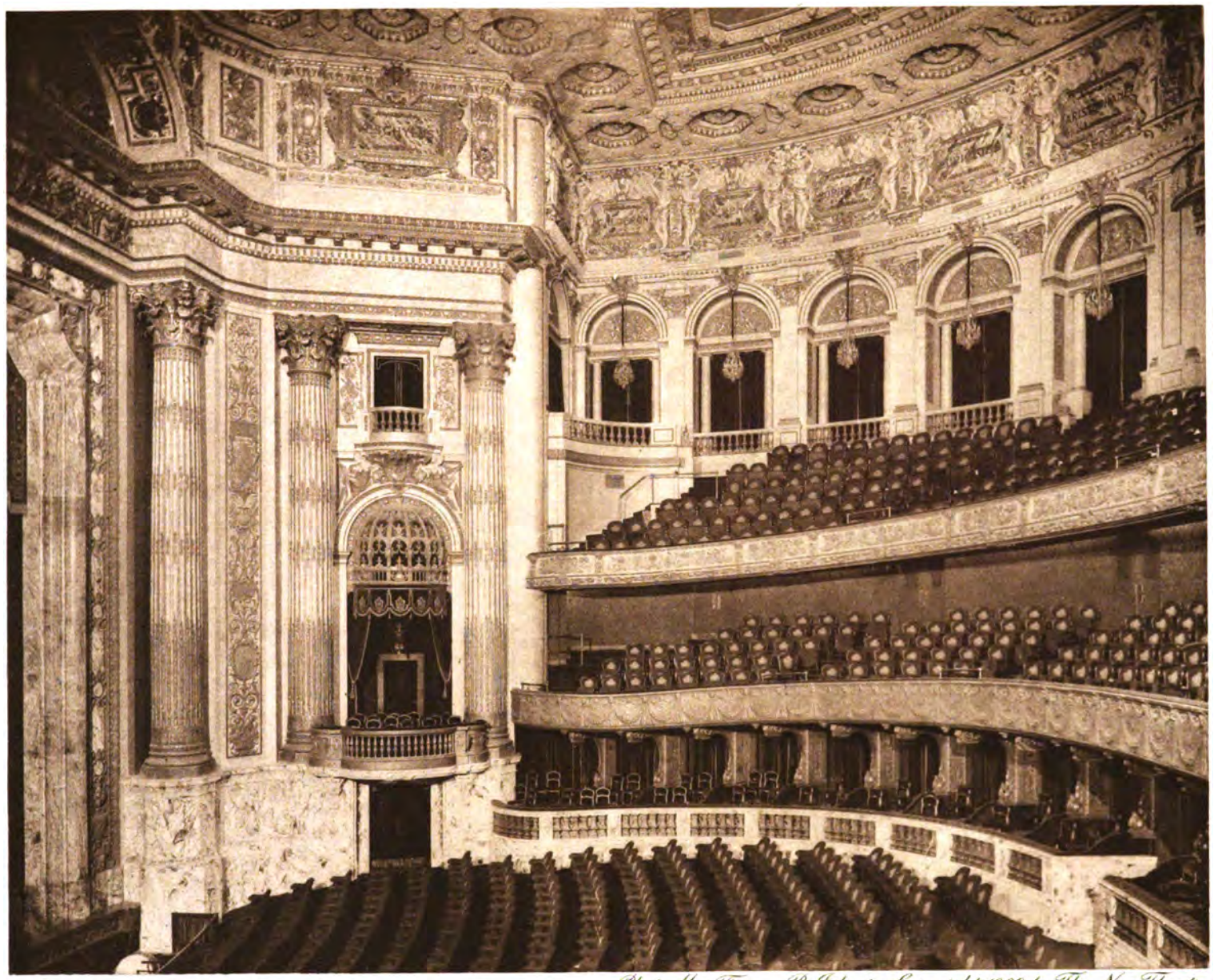
Photo Miss Frances B. Johnston, Copyright, 1909, by The New Theatre

ail of First Balcony



FOYER FLOOR PLAN

THE NEW THEATRE



CARRÈRE & HASTINGS, ARCHITECTS

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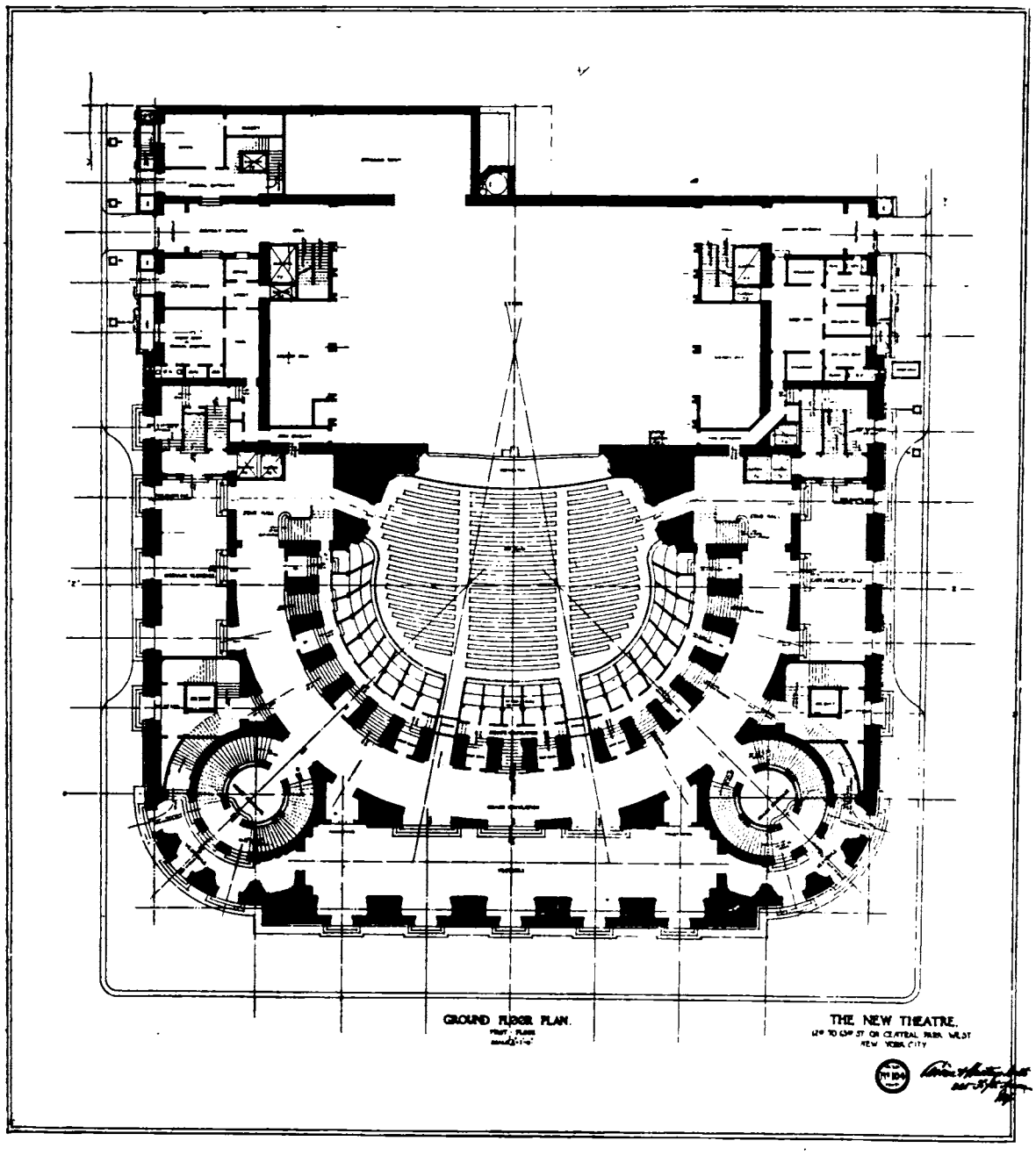
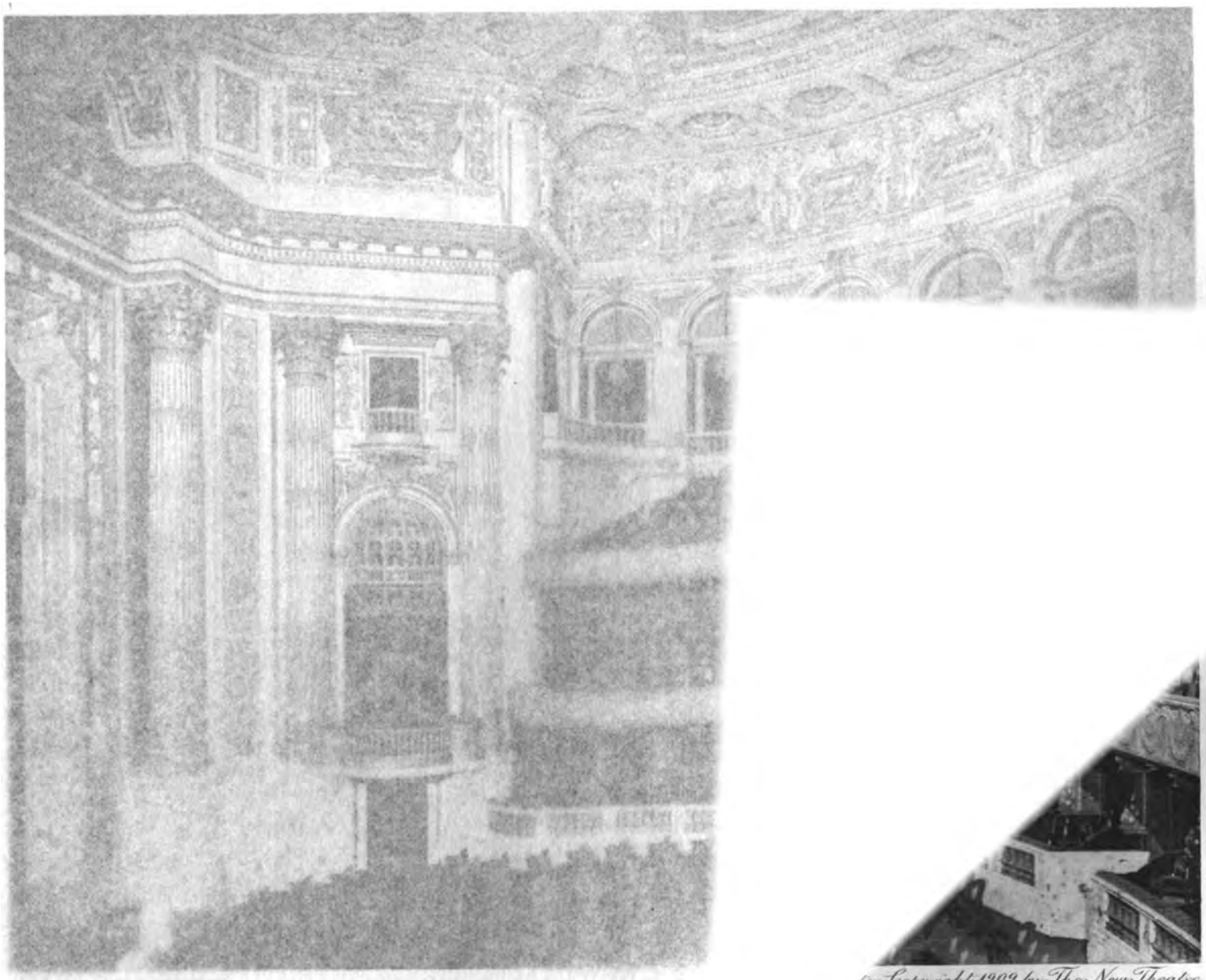
Side of Auditorium


GROUND FLOOR PLAN.
THE NEW THEATRE.



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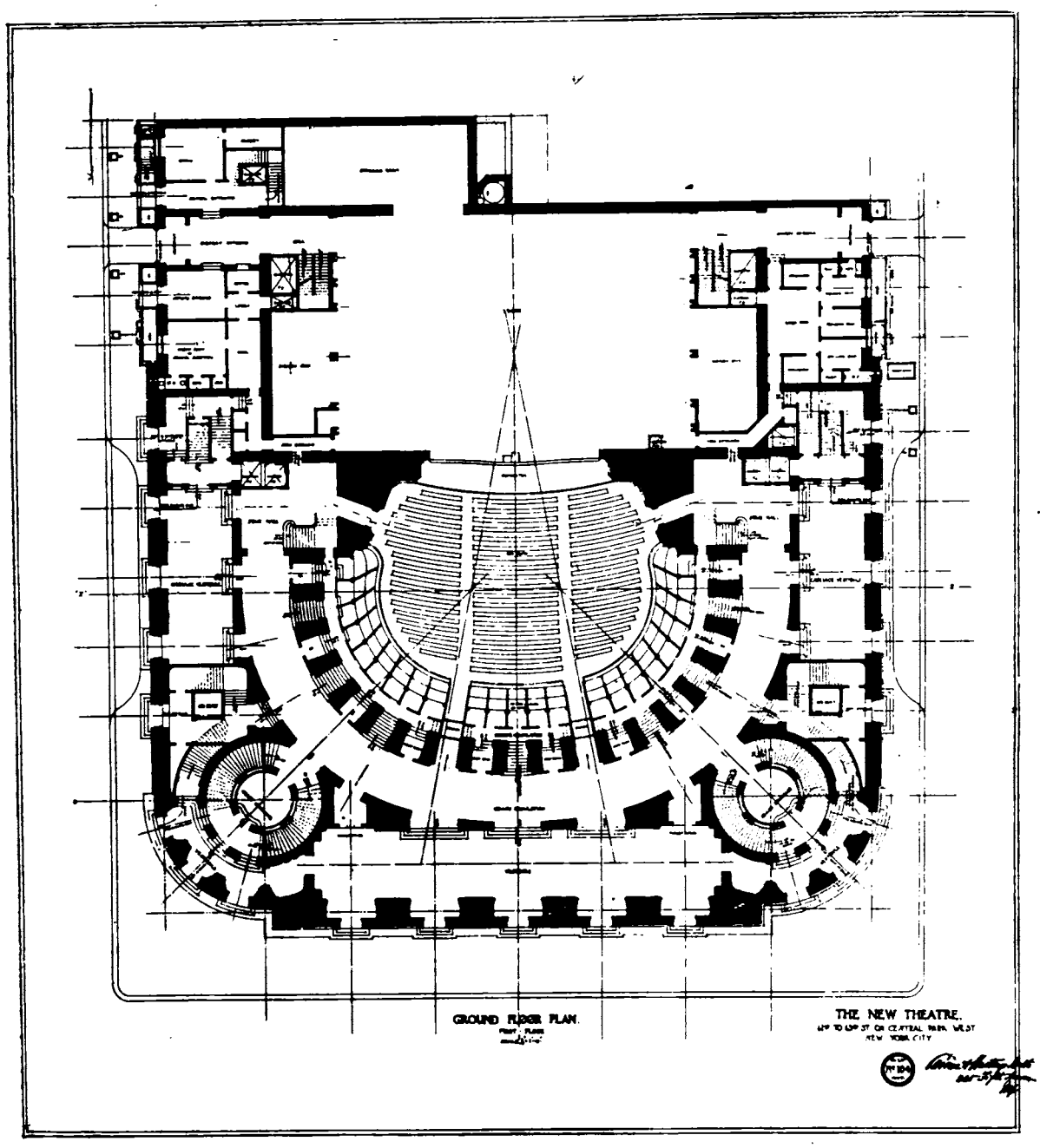
GROUND FLOOR PLAN.
THE NEW THEATRE.

CARRÉRE & HASTINGS, ARCHITECTS

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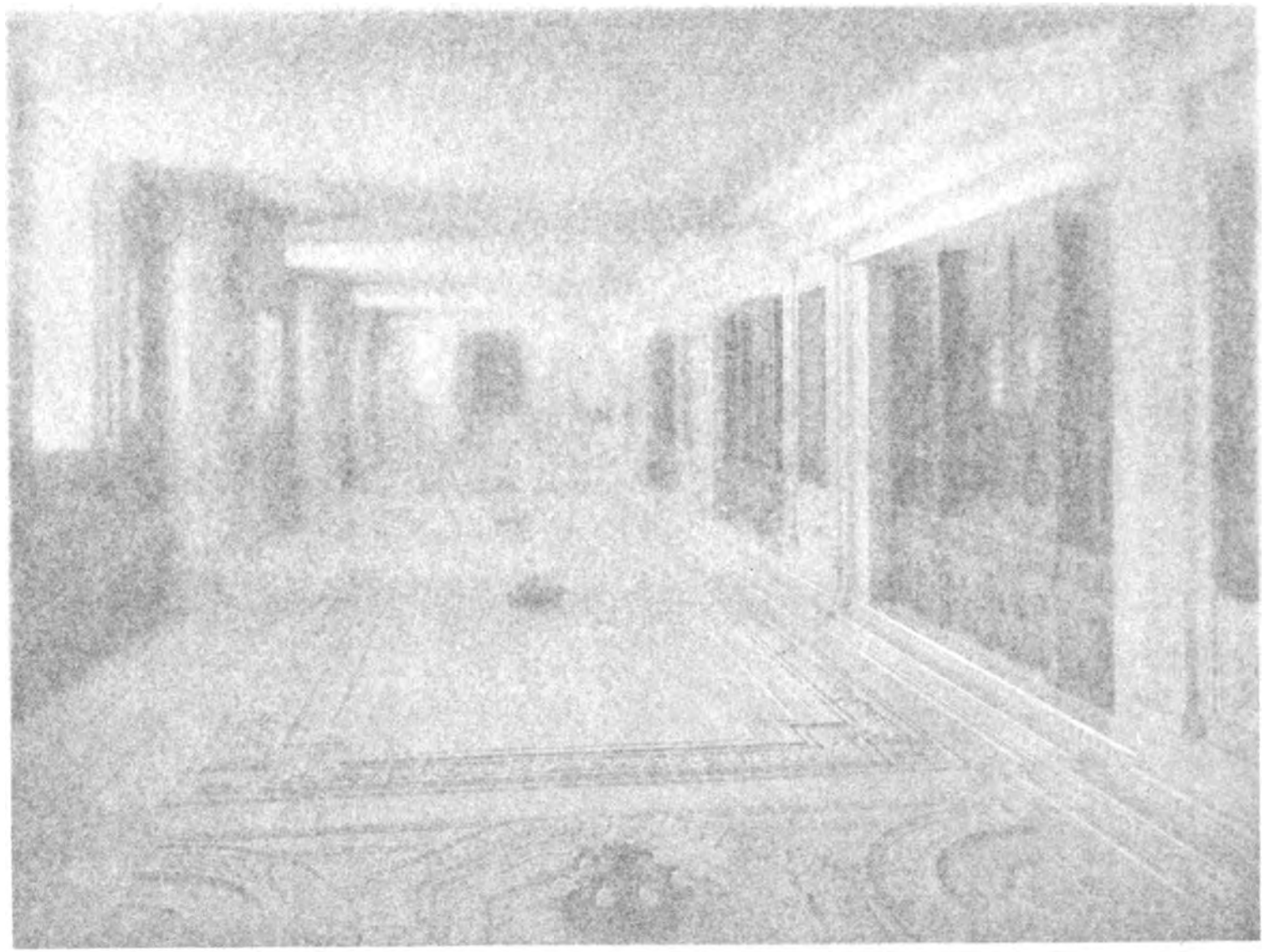
Main Vestibule



CARRÈRE & HASTINGS, ARCHITECTS

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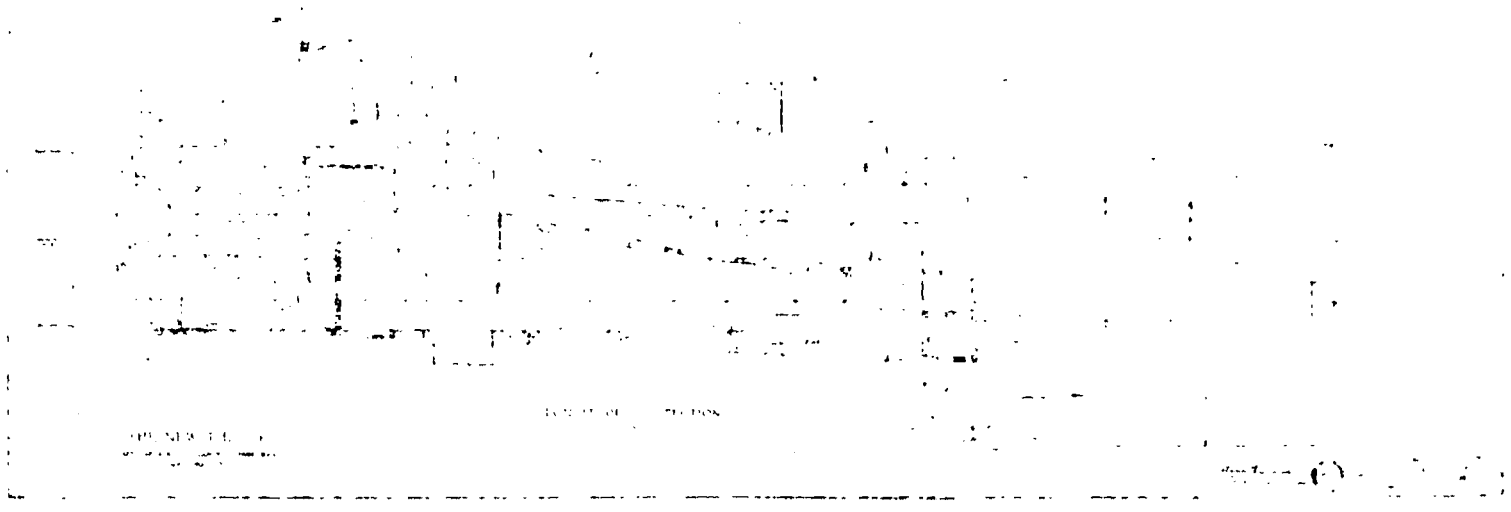
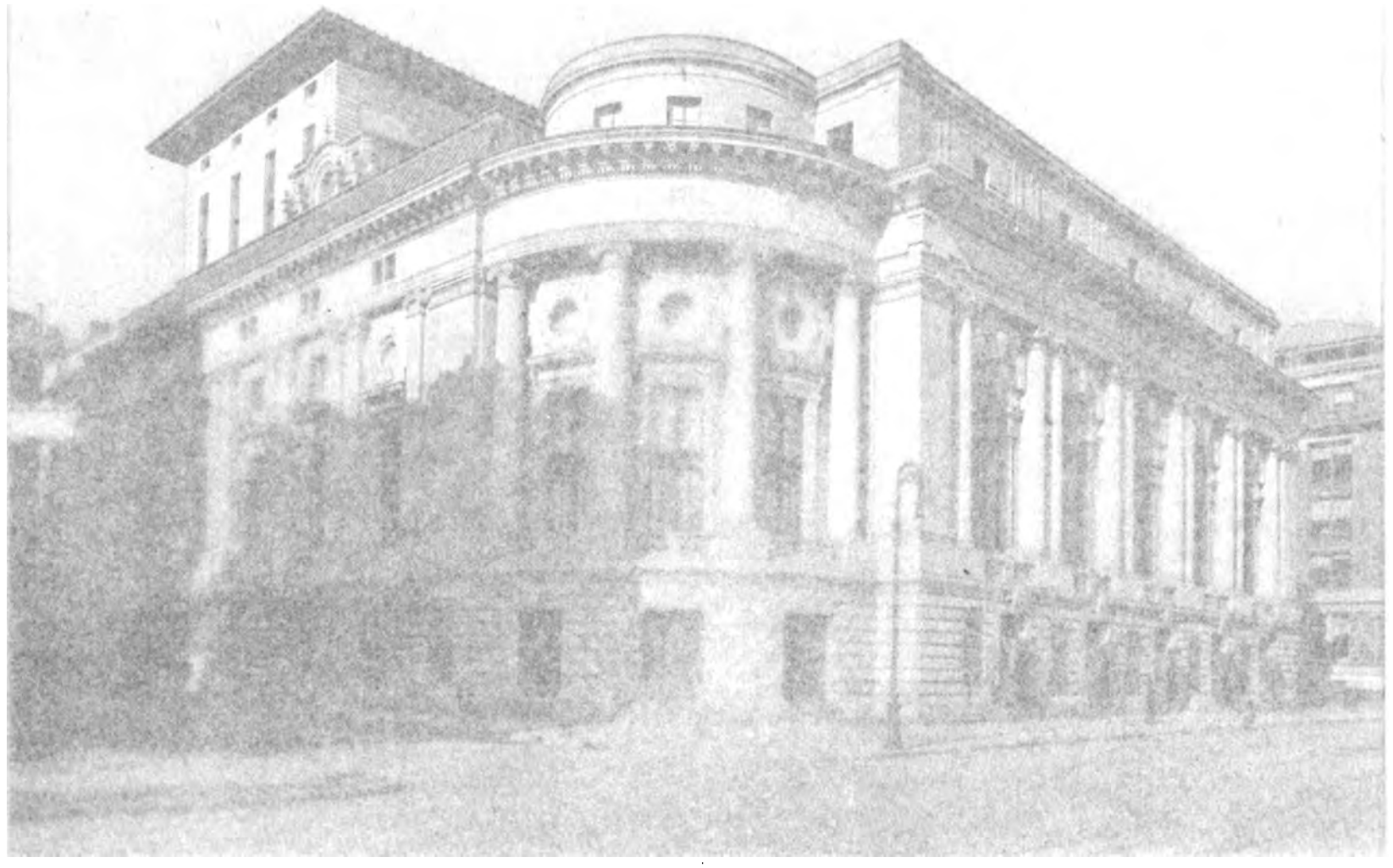
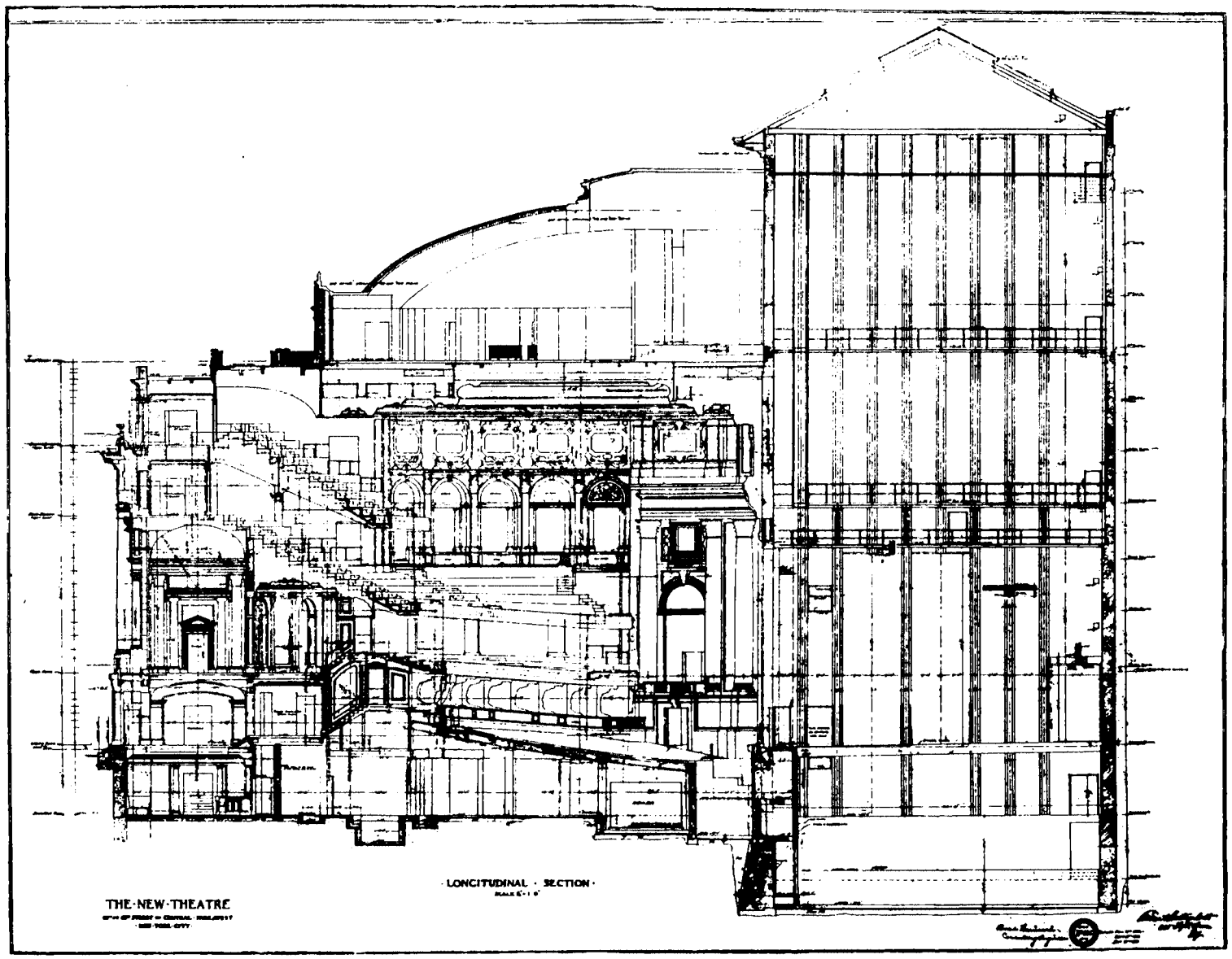
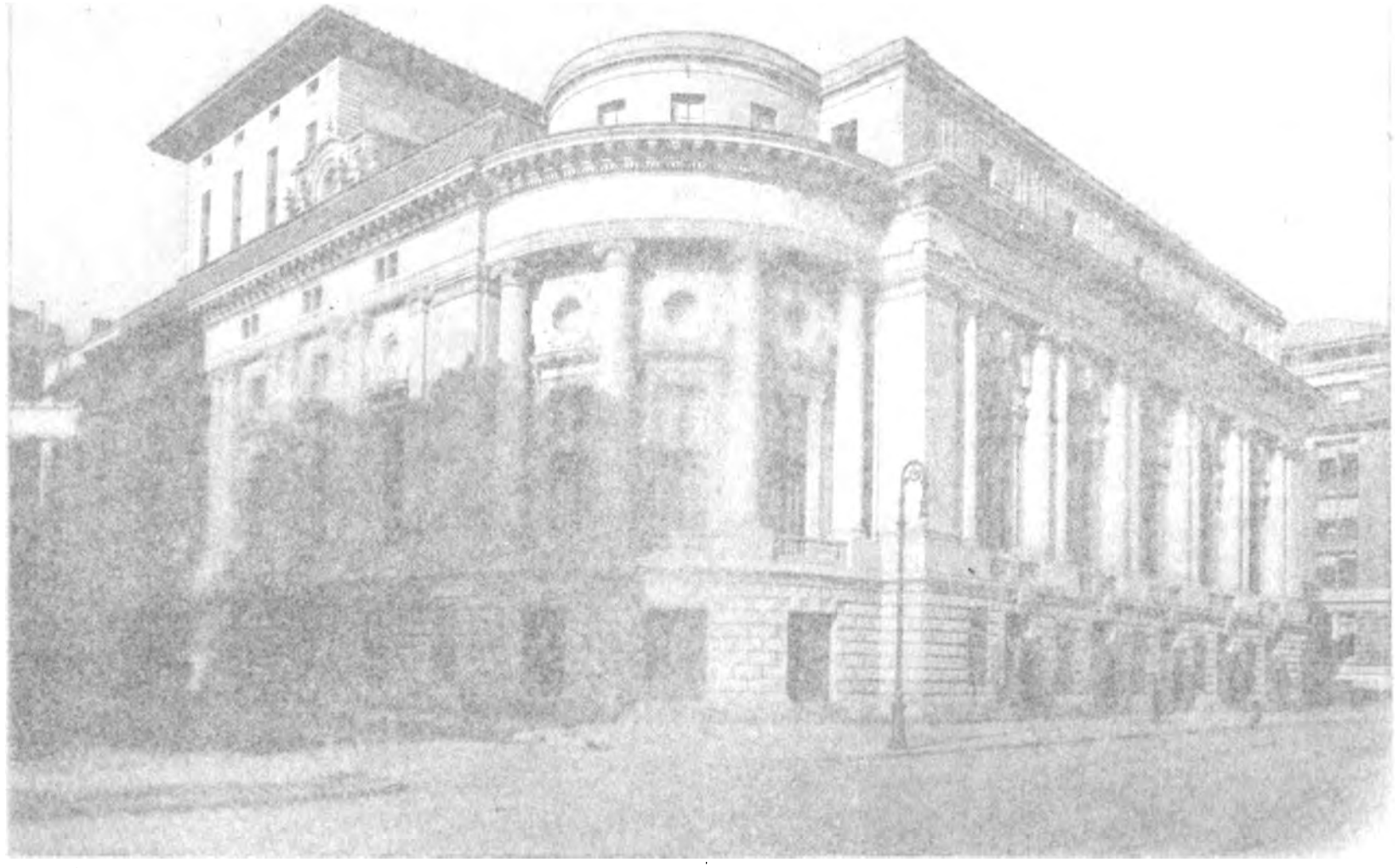
The New Theatre, New York City

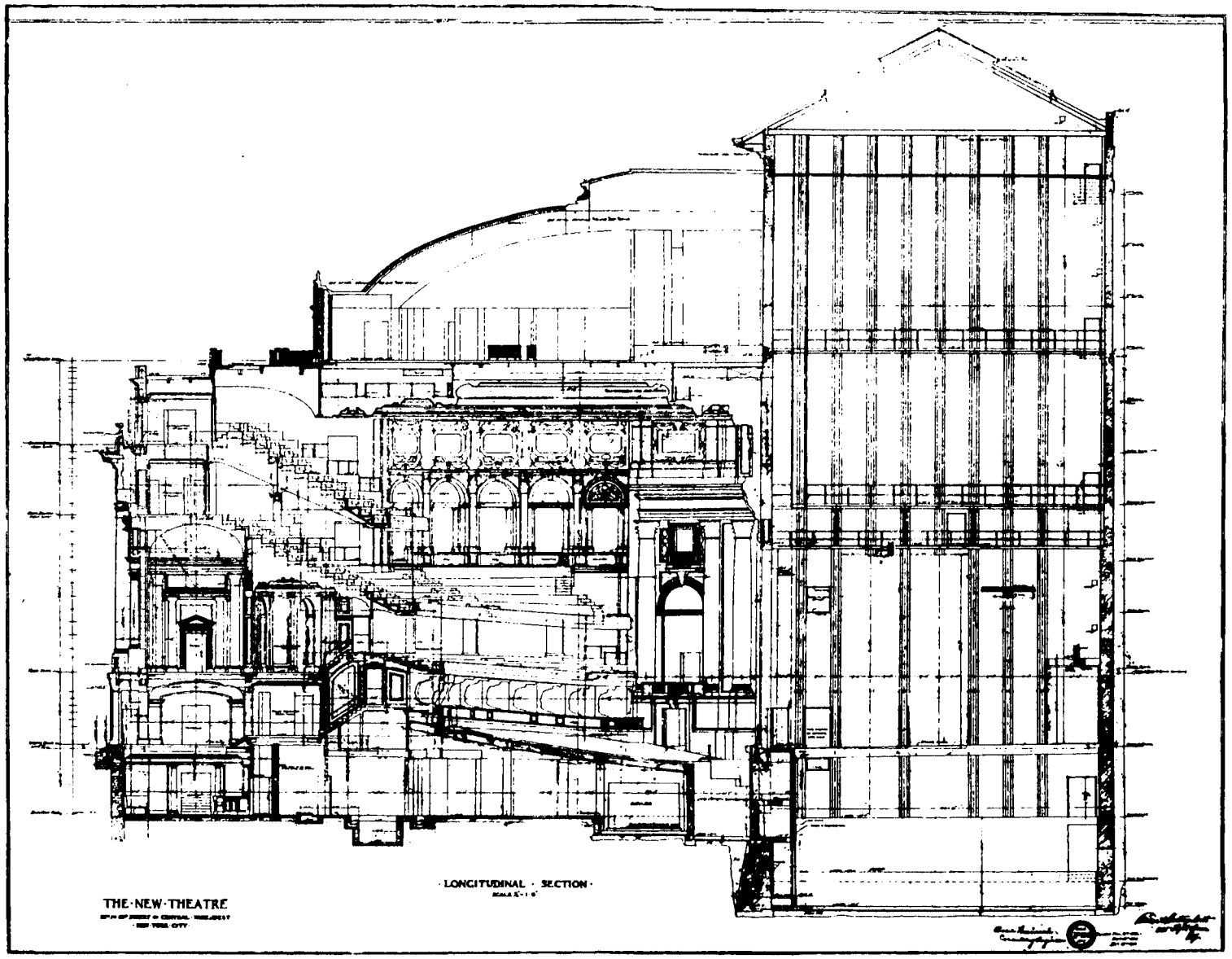
Facades of Central Park West & 62nd Street






THE·NEW·THEATRE
·LONGITUDINAL · SECTION·




THE·NEW·THEATRE
·LONGITUDINAL · SECTION·

be heated twenty-four hours per day, the ventilating system is required only when the auditorium, stage and rooms in connection with the same are occupied. This separation of the heating and ventilating apparatus is therefore fraught with economy and simplicity of operation.

The auditorium being an interior room without any exposure requires no heating whatsoever. On the contrary, a large amount of air supply, introduced at a lower temperature than that desired in the auditorium, is required to offset the great amount of heat given off from the illumination and from the audience.

A thoroughly modern and effective ventilating apparatus is provided for the auditorium, the foyers, the circulations, the stage, the principal rooms in connection with the auditorium and the interior dressing rooms. Pure, fresh air in large quantities is supplied to the ventilated rooms, which air is taken in at the sixth-floor level, conveyed through two large shafts down to the basement, where the ventilating apparatus is located, filtered by being passed through cheese-cloth filters, tempered to the desired degree by being passed over automatically controlled steam coils and forced by electrically driven Sturtevant blowers through galvanized iron duct systems to the various air supply registers.

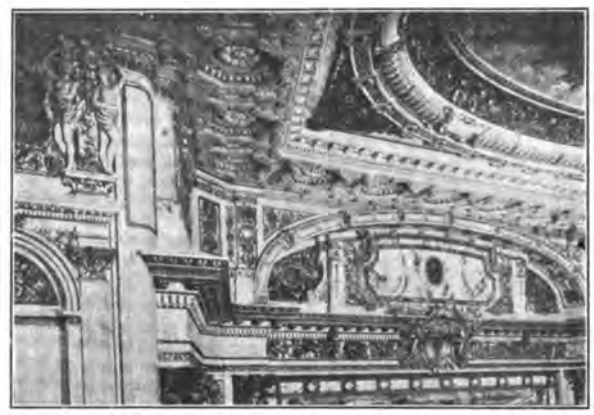
Air in large quantities is also exhausted from the various ventilated rooms by means of exhaust fans discharging above the roof. The total fresh air introduced by the ventilating apparatus aggregates about 115,000 cubic feet per minute.

Reversing apparatus for the auditorium, an entirely new feature, is introduced in connection with the ventilating apparatus. With this apparatus it is possible to introduce the fresh air either at the floor or at the ceiling at will by the single operation of revolving the damper within an arc of 90 degrees.

The heating and ventilating apparatus was designed by the late Alfred R. Wolff, the planning and supervision being under the personal charge of Werner Nygren, of the firm of Nygren, Tenney & Ohmes, successors to Alfred R. Wolff.

The stage switchboard, for the control of the electric lights on the stage and in the auditorium, is entirely novel and on a much more complete scale than has ever before been attempted. A control board is placed in a prompter's box under the stage, so that the operator, with his head in the footlights, can see the entire stage and the switches and dimmers are placed in fireproof rooms under the front of the stage and moved by solenoids and motors controlled by the operator. All switches are of the remote control type, and all dimmers and speed changes are operated by magnetic clutches. The control board occupies a space 6 feet by 3 feet and is operated easily by one man. The control board is so arranged that each dimmer has its individual shading control, each of four colors in borders, and footlights are divided into four sections. Each section of lighting is controlled by one forward and one backward moving section shaft, making a total of fifty-two section shafts. The section shafts are moved by two master shafts, one for backward and one for forward motion, each operated by a variable speed motor. Each dimmer is arranged to be automatically stopped at any one of fifteen points, predetermined by the operator setting his switches. The motors or master shafts are arranged so that in case of accident to either one the other can perform all the work.

One very valuable feature of the equipment is the fact that the current used on the control board is only 10 volts, or about what is used on a call bell system. This board controls all clutches for the dimmers and the speeds and is



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DETAIL, UPPER PART OF AUDITORIUM

arranged with master and sub-master switches so that all possible combinations can be manipulated simply by throwing one switch. The control is so arranged that while the curtain is up any desired lighting effect can be set in advance, and upon cue by throwing one switch the most complicate change and interchange of light is effected entirely by machinery at any speed or combination of speeds, from 4 seconds to 16 minutes.

The general structural designing of the building and the mechanical equipment was under the general direction of Mr. Owen Brainard, of Carrère & Hastings. The stage mechanism was invented and designed by Mr. Claude L. Hagen, technical director of the New Theatre. Mr. Arthur Falkener, consulting engineer, was in charge of the detail designing and execution of all the stage work. The electrical equipment throughout the building, including the lighting of auditorium and stage, elevator work and electrical appliances generally, were designed and executed under the direction of Pattison Bros.

forming the base of the outside walls. These arches are 60 inches in depth and raised on concrete imposts. This construction was adopted to save the expense of a deep, continuous foundation, which would have been exceedingly costly. The sub-structure under the stage is a pit 35 feet deep blasted from solid rock, as the ledge was very high at this point. Owing to the presence of the running water it was necessary to provide for sump drainage, and this was accomplished by means of two electric pumps. The footings for many of the independent piers and interior walls were placed on sand or hard clay and gravel and at varying depths, the dimension of each footing and the area being arranged for unit loads varying, according to the condition of the soil, from 1¼ tons to 4 tons. The soil under each footing was tested independently as uncovered.

The exterior walls are of masonry without steel columns, but most of the interior supports are by steel columns and girders. The size of the auditorium and its plan made the loads on the steel frame very heavy, owing to the great projection of cantilevers and the placing of a smaller auditorium or roof garden above the main auditorium. This last feature required the use of very heavy steel girders and very heavy columns in the ceiling and walls of the main auditorium.

The fireproofing throughout was done entirely with reinforced concrete, and the floor surfaces were placed directly on this concrete and are of granolithic. The two principal stairways in the auditorium portion, which are structural, are of reinforced concrete construction, and the entire exposed surface of these stairs, including the railings, steps, columns, etc., and all of the floor and step surfaces in this auditorium portion are made of cement block with very light colored sand, which produces a very light cream-colored surface.

✓ The stage construction and equipment include three principal units, which are a circular revolving platform forming the stage floor, a sectional bridge stage of eight sections with vertical movement of each section, and the counterweighting system of the battons on which the scenery is hung, which is operated by the use of shot buckets.

✓ The revolving stage is a circle 64 feet in diameter, set flush with the floor of the stage and operated by an electrically driven drum carrying a wire rope, which passes around the periphery of the dreibuhne. This platform is made of four layers of hard wood, a total thickness of 4 inches, and is supported on numerous wheel rollers. This platform is revolved by the operation of the electric motor, and three scenes are set upon it. In the scene changes the curtain is dropped and the platform revolved to bring the desired scene to the proscenium. This change of platform position requires about one minute.

✓ The circular platform is divided into eight rectangular sections and four segmental sections. These sections are locked together by slide bolts and special locking devices, and when in a position parallel with the curtain and unlocked they can be dropped with the eight bridges immediately below them, either individually or collectively. This makes an elevating and sinking bridge stage, which can be used for any pit or step effects and in various positions, permitting the setting of heavy scenes below the stage in the stage pit while the performance is in progress above, and then raising this into position after the previous scene has been struck. The lifting apparatus has not been entirely completed, but when completed will permit of the setting of three heavy scenes and their ultimate use with a very brief interval for the change of position.

The counterweighting system controlling the weighting and balancing of the drop scenes consists of a series of shot buckets with valves operating in sheet metal shafts. The shot, stored in a distributing tank on the top of the stage house, is controlled by valves over each bucket. When the valve is opened the shot is run into the bucket until the required weight to balance the scene is obtained. If it is desired to drop the scene to the stage floor for removal, the valve in the bottom of the bucket is opened and the shot falls into a collecting tank on the stage, and from here is carried by bucket elevators, electrically driven, and distributed in the shot tank at the top. This permits of the most delicate adjustment and balancing of scenery and counterweighting. The frame of the orchestra pit is adjustable for height by the operation of three screws, which form the leg supports of the platform. The adjustment is obtained by the revolution of bronze nuts with electrically driven worm gears. This platform can be placed at any height in the pit or raised up to the stage level to form an extension of it for the presentation of drama in the Elizabethan manner, or for use when it is desired to extend the stage for chorus or other similar performances.

The heating of the building is accomplished by low-pressure steam, circulated through registers placed underneath the windows. This represents not only the most economical method of heating, but is also the most effective means of counteracting the down-drafts from the windows. The radiators in all the principal rooms are controlled automatically by the Johnson system of temperature regulation, so that the rooms will be maintained at a uniform temperature without hand control, irrespective of outside conditions of wind and weather.

No blowers or mechanical means are required for heating the rooms. The extensive blower system is for ventilation only, and the ventilation is independent of the heating system, for while in the winter months the building must

from the main circulation on the ground floor up one section to the boxes, and then another section to the foyer floor and the third section to the level of the gallery. This motive occurred to us even before we began actually to study our plans and to make our preliminary drawings, because it would seem to make a halfway meeting place for these different sections of the audience and not require either of them to go down or up more than half a flight of stairs. The illustration showing the foyer circulation shows only one of these staircases and inadequately explains the general scheme, which can, however, be seen in the floor plan.

We feel much gratified in the present working and use of the theatre to find that the people so largely resort to the foyer and the grand circulation, and cannot help hoping that this very point of departure in our studies for execution has brought this feature about. This movement, we believe, gives a certain atmosphere to the whole scheme of the theatre, and at the same time it gives a large and generous circulation and means of exit when the play is finished. The foyer of the New Theatre was given by Mr. William K. Vanderbilt, the president of the Founders, who generously paid for all the interior decorations. He also gave the well-known paintings by Paul Baudry, which are arranged in the ceiling decoration. The general scheme of color decorations, not only for the foyer, but the entire house, is the work of Mr. James Wall Finn, who devoted himself untiringly to the doing of this work in the very short time which was left between the completion of our portion of the work and the opening of the theatre.

It has always been our theory that the modern theatre, with the cantilever method of constructing the galleries, resolves itself, from the artistic point of view, into a study of the floor plan, the elevation of the so-called proscenium side of the house and the ceiling as related to the plan and, of course the front of the galleries; besides this, however, we feel the real importance of a carefully studied massing of the audience. With this in view we believe it essential to study the sight lines of every section of each gallery in order to keep the galleries as low as possible within the limitations of the sight lines. Following up this idea the very difficult problem was given us of making all these sections of the galleries so that neither the front nor rear of them was in a horizontal plane. The difficulty here involved was more especially found in the matter of reaching comfortably the levels of circulations.

It is, of course, needless to say that the exterior of the building has never been completed. A high balustrade is to be built on the main cornice, which will practically hide the attic from view, and almost none of the carving has ever been finished, so that the outward appearance of the building as designed is yet to be fully realized, and we hope that in the near future it may be possible to complete all the work of the facades as designed and shown on the drawings and the ornament as modeled.

ENGINEERING FEATURES OF THE NEW THEATRE.

By Owen Brainard, C.E.

The construction and equipment of the New Theatre building, at Sixty-second street and Central Park West, present many unusual features which should be of interest to the profession.

The site lies partially on the bottom of an old creek, and the soil conditions were exceedingly varied, a large rock at this location being tilted at an extreme angle and showing great diversity of depth. On some portions of the site the foundations were placed directly on the rock; on other portions fine sand was uncovered to flow in water. On the north side there was a deep ravine in the rock, the bottom being about 45 feet below the street level. This ravine carried a stream which was very troublesome. At this point a shaft was sunk and a

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DETAIL OF FOUNDERS' BOXES

rectangular concrete door built up tightly on the bottom of the ravine and extending up to the cellar floor level. From the top of this door two segmental brick arches were thrown, extending some 30 feet in each direction and

the case of the planning of a theatre. This is especially true where the proportions of the given lot or piece of property are somewhat out of the ordinary and the conditions of the program have been arbitrarily established.

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CAFE AND SMOKING ROOM

The site acquired for the New Theatre turned out to be somewhat wider than necessary, and rather shallow for the necessary requirements. There was provided a 200-foot width on the Central Park side, from Sixty-second to Sixty-third street, and a 200-foot depth on the side streets.

As regards the program, when Mr. Charles T. Barney was president of the New Theatre project and the arrangements had been made between the board of directors and Mr. Heinrich Conried to advise them in writing the program, together with Messrs. Stanford White, Donn Barber and Edgar V. Seeler, they established certain general dimensions, all of which were practically adhered to in our competition drawings. These dimensions were followed, even in the building of the foundations, before the change of administration, following the death of Mr. Barney. Thus, the foundations being built, these dimensions as established by the program of competition were forced upon us in completing the building under the new administration.

In the study of the plan the program required that the auditorium should not exceed 65 feet in depth from the curtain line to the face of the lower tier boxes; also the proscenium arch was required to be 40 feet wide, and each spectator on the orchestra floor of the building was expected to see a central point on the stage at least 30 feet behind the curtain line. These dimensions not only were established, but also the minimum depth and width of the seats, and at the same time the program asked that we should be able to seat not less than 600 people on this floor of the house.

This would seem to be a simple descriptive problem to work out, but 600 people was almost an impossiblity within the limit of these restrictions. This led us in the study of our plan to start out with the two extreme sight lines and build upon a fan-shape plan, which it was evident would give us the largest possible capacity within the requirements of the program, but the arc of the outer circle did not give space enough for 22 boxes 6 feet wide, which led us to round the corners, as it were, of the fan, making an eliptical form, instead of a true arc of a circle.

This very briefly is the evolution of the general scheme of the floor plan of the New Theatre.

It was the result of an effort to get all the boxes asked for and as nearly as possible 600 people within these given dimensions.

In the beginning it was our general feeling that the idea of the founders was that the more seats and the larger the house the better the results would be in order to finance the project, and it was not until much later, when there was a considerable discussion about the house being too large for modern drama, that we modified our plans, as far as the foundations already built would allow, and so diminished the size of the house as much as was possible within these limitations.

In a general way these dimensions in the program were taken from theatres in Germany, Austria and France, all of which vary but slightly, which would seem to indicate that tradition throughout the continent established the general sizes of a theatre of this character. In England, as in America, there seems to be but little consensus of opinion about dimensions in theatre construction. Each time we seem to begin anew and, as a rule, every man for himself.

One of the important features of the New Theatre from the very beginning was to have a foyer, and to make a feature of this foyer, having one long entre-acte so as to encourage a rest and general promenade between the acts. It has been generally conceded that the foyer as built in Europe is too little frequented and becomes in consequence somewhat dreary and forbidding. To overcome this it seemed to us evident at the beginning of our studies that something should be done with the general scheme of circulation to force, as it were, the general public into this foyer, or at least to induce them to go there without too much effort.

With this end in view it occurred to us in planning the building to establish the floor level of the foyer at a level, halfway between the level of the founders' tier of boxes and the foyer stalls, or main balcony. To accomplish this end we designed the small up and down staircases all the way around the perimeter of the auditorium in three so-called sections, going

tion room, where Founders' meetings may be held, and two small offices adjoining, with desk room for clerks.

A suite for the General Manager, comprising an ante-room, reception room, secretary's room and private office.

A clerk's room, a bookkeeper's room, a stenographer's room, a press agent's room.

A school of dramatic and musical art, consisting of a small concert room with stage, and at least twelve school rooms of about 250 square feet each. This department of the building should be disposed at the rear of the property in connection with the stage, and should have a separate entrance from the street.

(Note: This school of dramatic and musical art has not as yet been built.)

Four elevators for the public, serving all floors, including basement and roof.

Two elevators behind the scenes ample to carry performers from the stage level to the various levels of the dresing rooms.

One elevator for the school of dramatic and musical art.

Special entrances for the occupants of the top galleries.

Fire stairs and all necessary appliances in connection with them, in accordance with the city laws governing the same.

Space in basement for mechanical equipment.

Drawings.

The following drawings are required:

A plan of the ground floor.

A plan of the foyer floor.

Plans of the galleries.

Two elevations.

A longitudinal section of the entire building, at right angles to the proscenium.

A transverse section of the entire building, showing the proscenium and parallel to it.

All drawings are to be made at a scale of sixteen feet to one inch and are to be mounted uniformly on cardboard, 18x24 inches in size.

No competitor may submit more than one design, and no models, flaps or alternative drawings or drawings other than those mentioned above will be accepted or considered.

The mode of presentation of the drawings is at the option of the competitor, but wash and color rendering are reccommended.

Names, dimensions and areas of rooms are to be designated on the plans and sections.

All seats are to be indicated on plans, and the total number of seats in any one space clearly marked and enumerated.

Each drawing shall bear the title "New Theatre Competition," and the name of the architect, and only such other inscriptions as may be necessary to designate the rooms as above required, the names of the drawings and their parts, and the scale to which they are drawn. Simple and legible block lettering is requested.

Each competitor is to submit with his drawings a brief typewritten statement or memoir not exceeding a thousand words in length, giving an outline description of the materials intended to be used and of any important or unique features of the design not shown on the drawings, and showing in tabulated form the full seating capacity of the auditorium. This is to be accompanied by a reasonably approximate estimate of the cost of the design. The item of cost thus submitted will not be taken into account in judging the competition, but is asked for merely as a guide to the Founders in determining the amount which should properly be spent in the erection of such a building. It is desired that the cost of the building, exclusive of stage fittings and architect's fee, should not exceed $1,700,000. It is, more-

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DETAIL OF MAIN STAIRWAYS

over, believed that a building of this character can be built at an average cost of about 45 cents per cubic foot. The competitors must state what cubic foot rate they have used in determining the cost of their building based on its full cubic contents.

The building is to be as nearly fireproof as modern methods make it possible, and the equipment and finish throughout are to be complete in every respect and conformable to the purpose of such a building.

THE NEW THEATRE.

By Thomas Hastings.

Monsieur J. Guadet in his book, entitled "Les Elements et Theories de l'Architecture," begins his chapter on theatres by saying that there is no problem in architecture where there is so much to give and to take and so much to lose on the one side in order to gain on the other, and where so much good judgment is required as in

shoes, hats and small articles to be laid on shelves or put in drawers.

In connection with the wardrobe a room of about 300 square feet for the storage of armor, spears and similar properties.

A coat room of 600 square feet for 80 musicians, with space for storage of musical instruments.

Two small rooms for musical conductors, placed near the dressing rooms.

Three stage managers' rooms, placed so as to control the dressing rooms.

A carpenter shop, for the construction of scenes.

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START OF MAIN STAIRWAYS

A room of ample size, but not necessarily very high, for the painting of scenery on the flat. Scenes are painted on the floor of this room.

In addition to this scene-painting room, a space at the back of the stage where scenes may be painted vertically from a bridge.

A room of about 600 square feet for stage hands.

Janitors' rooms.

A room for scrubwomen.

A library of about 700 square feet, in the nature of a fireproof vault, in which will be kept copies of all plays, scores and the literature of the drama, music, costumes, etc. Location, preferably near the stage and easily accessible from the street for use of the public on occasion.

It is suggested that the orchestra be placed below the level of the stage, with an opening to the house included between the edge of the stage and a parallel line not more than eight feet in front of the stage; the musicians to occupy three levels, stepped downward from the audience and extending under the front of the stage. The ceiling and back wall of the orchestra pit thus formed should be so disposed as to form a sounding board.

The auditorium is to be arranged with a parquet, two tiers of boxes and two deep or three shallow galleries above the boxes.

The greatest distance between the curtain and the line of the front of the boxes is not to exceed 65 feet. The boxes are not to be less than 46 in number, each with an ante-room. The boxes are to be from 6 feet to 6 feet 6 inches in width on the face and are to contain six chairs each. The top of the railing of the lower tier of boxes should not be more than 5 feet above the level of the parquet floor, and an aisle should be provided around the parquet seats so that persons wishing to converse with occupants of the boxes may do so standing on the parquet level. A private circulation about 8 feet wide should be provided around and back of all the boxes.

The seating capacity of the auditorium, exclusive of the boxes, is to be not less than 2,000, of which the parquet alone must contain not less than 600. Seats are to be not less than 24 inches wide by 32 inches back to back.

The distance between the floor levels of the galleries is left undetermined, but the European practice in this respect is advised, whereby the heights are less than is usual in American theatres. The height from floor to floor of boxes, however, is not to exceed 9 feet.

One or two grand staircases and a foyer are required, but these, together with the smoking room, cloak rooms and retiring rooms, are left for arrangement and proportion to the competitors, except that the floor level of the foyer should be placed approximately on the level of the upper tier of boxes.

There are to be provided in connection with the public part of the building the following:

A main entrance vestibule, with necessary box-office accommodations.

Two separate carriage entrances, under cover for subscribers.

An additional separate carriage entrance for performers, arranged so that if necessary it can be entirely enclosed.

In the basement, easily accessible from the street and from the house, a restaurant and café.

A confectioners and a florist shop on the street level.

A portion of the roof is to be treated under glass as a palm garden, available throughout the winter season and having direct service from the restaurant.

General requirements include the following:

A suite for the Founders, comprising a recep-

supervising of interior decoration. This fee was understood to cover all services of experts. The services of the architects did not cover the designing and supervising of the installation of stage fittings or technical stage machinery, and the cost thereof was not included in the total cost of the work in computing the commission paid the architects.

The plans of Messrs. Carrere & Hastings received the award, and they were employed to make designs for the building.

A public exhibition was held in June, 1906, under the auspices of the architectural League of New York, of all of the competition drawings.

The following is the text of that part of the program having to do with the requirements of the building:

PROGRAM.

"The site for the building comprises the entire block front of 200 feet on Eighth avenue, between Sixty-second and Sixty-third streets, and has a depth of 225 feet on Sixty-second street and of 200 feet on Sixty-third street. The westerly line of the property is a party line; the extra 25 foot lot on Sixty-second street has a depth of 100 feet. For the purposes of this program all property angles are to be considered right angles.

The building will be prominently visible on three streets. The rear elevation of the building, where exposed above the adjoining buildings should be treated in a simpler manner so that it will harmonize decoratively with the other elevations of the building.

The Building Code of the City of New York shall govern form, arrangement and finish in every respect, to which it may properly apply.

The stage shall be about 85 feet deep by about 100 feet wide. The height in the clear, from the level of the stage to the loft, shall be 108 feet, divided by fly galleries as follows, dimensions being from floor to floor: From stage level to level of electrician's gallery, 36 feet; from electrician's gallery to first fly floor, 7 feet; from the first fly floor to the second fly floor, 29 feet; from the second fly floor to the loft, 36 feet no inches. The fly galleries are to have a width of 8 feet. The depth below the stage should be about 60 feet. The stage shall be placed about on a level with the sidewalk, to facilitate the entrance of scenery and heavy properties.

The width of the proscenium arch shall be about 45 feet, and its height about 40 feet.

The usual apron in front of the curtain is to be omitted. There is to be only sufficient projection for footlights and the prompter's box.

As accessories to the stage the following shall be provided:

Rooms, known as "scenery docks," in immediate connection with the stage for storing the scenery needed for several different and successive performances, and arranged so that all the wings used in any one production can be kept side by side, and yet separate from the wings used in any other productions.

A property room of about 600 square feet on the level of the stage.

A room of about 600 square feet, for the storage of furniture and stage fittings, not necessarily on the level of the stage.

A room of about 300 square feet, for the storage of movable electrical apparatus, easily accessible from the stage, but not necessarily on the same level.

Twenty dressing rooms for men and twenty dressing rooms for women on opposite sides of the stage, each to have from 90 to 100 square feet in area. Each to have wash basin and direct ventilation from a window in an external wall. No dressing room shall be placed more than one story below the street level.

Two chorus rooms for men and two for women; each large enough to accommodate amply thirty persons, each person to have a dressing table and locker.

Two supers' rooms, each large enough to accommodate fifty persons.

A ballet practice room of not less than 1,600 square feet, with direct access to the stage, if possible.

Three rehearsal rooms; one a room of about 2,000 square feet in area, for full chorus rehearsals, one a room of about 1,000 square feet in area for male or female chorus rehearsals, one a room of about 550 square feet in area for the rehearsals of principals.

A green room of about 300 square feet in area, centrally located with respect to the dressing rooms and the stage.

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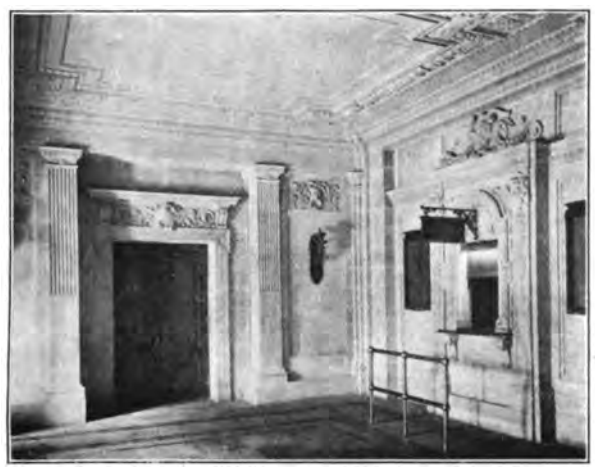
DETAIL ENTRANCE VESTIBULE

A general wardrobe room of about 1,600 square feet, so arranged that the costumes of the different productions may be stored in separate groups; costumes to be hung on poles;

after a reasonable period of demonstration and experiment, whether or not it has been wisely planned and built.



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END OF ENTRANCE VESTIBULE

The following statement was printed in the program of the competition:

THE NEW THEATRE.

"The conception which the Founders of the New Theatre Company desire to express in concrete form by means of this competition is a building suitable for the production of the classical drama and of modern plays and light opera of genuine merit in a manner worthy of the best traditions of the stage. By light opera is meant the kind of performances to which the Paris Opèra Comique is dedicated. The theatre is not in any sense a commercial venture, but is to be maintained for the sake of art. By the standard of its performances and the spirit of its administration, it is the intention of the Founders to place it in the relation toward dramatic art and literature occupied by the principal national theatres in Europe. It is designed not only to foster and stimulate art, but also to furnish a school of musical and dramatic art. All net profits will be directed to the development of such a school, accumulation of an endowment fund for the institution, the creation of a pension fund and other like purposes.

The theatre contemplated in this program is not to be understood in the usual American interpretation of the word; that is, a mere show house where the entire building is given over to the auditorium and the stage. It is intended to conform more nearly to the continental type of theatre in which the auditorium and stage occupy only a moderate portion of the plan, and provision is made for a foyer, grand staircases, ample retiring and cloak rooms, smoking room, entrances, circulations and elevators, restaurant, confectioner, florist and similar accommodations for the public. In its architectural aspect the problem is one that calls not only for a practical solution, but is also one in which the artistic treatment is of paramount importance.

It being manifestly impossible to secure in a competition of this nature a design complete in all its parts and details and capable of execution at a definite cost, the Jury desires and expects to receive a carefully studied general scheme only, whose final expression shall be intelligibly and sufficiently indicated, and which will realize in execution the general requirements of the program hereinafter set forth.

The Founders of the New Theatre Company of New York authorized a competition for the selection of an architect for their proposed theatre building, and appointed a Building Committee composed of Messrs. Charles T. Barney, Otto H. Kahn, Harry Payne Whitney, Eliot Gregory and H. R. Winthrop, with power to engage an architect and to proceed with the construction of the building. The following architects upon the invitation of the committee agreed to compete in a limited and paid competition:

BARNEY & CHAPMAN,
CARRERE & HASTINGS,
DELANO & ALDRICH,
J. H. FREEDLANDER,
HOPPIN, KOEN & HUNTINGTON,
GEO. B. POST & SONS,
ROBERTSON & POTTER,
TROWBRIDGE & LIVINGSTON,
WARREN & WETMORE.

The Building Committee named a Jury of seven, consisting of three of its members, a theatrical expert, chosen by them, and three practicing architects, chosen by the competitors, to prepare a program of the competition, to manage the competition and to make the award.

This Jury was as follows:

CHARLES T. BARNEY,
OTTO H. KAHN,
H. R. WINTHROP,
HEINRICH CONRIED,
STANFORD WHITE
DONN BARBER,
EDGAR V. SEELER.

The Founders paid to each of the nine competing firms named above the sum of seven hundred and fifty dollars in full remuneration of their services in submitting designs as required by the program.

The Founders agreed further to employ the competitor whose design was selected by the Jury to be the architects of the building, and they were compensated on the basis of 6 per cent. of the total cost of the work for full professional services, including the designing and

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DONN BARBER, Editor

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Twelve Illustrations in Photogravure.

ARCHITECTURAL ENGINEERING.

THE NEW YORK ARCHITECT announces with great pleasure that beginning with the issue of January, 1910, Col. J. Hollis Wells, of Clinton & Russell, will become Editor of the Department of Architectural Engineering, which is actually introduced in this issue by the article of Owen Brainard, C.E. This newly created department will treat of Structural, Power, Electrical, and Sanitary branches of architectural engineering, and will, as far as possible, supplement the architectural descriptive articles of the work illustrated in the magazine, thereby making the article on each building more complete. It will further show how interesting and recurring problems are worked out. It will be in some cases illustrated with details from specialists. Colonel Wells has already begun his work in preparation, and has a staff of well-known engineers contributing to his department.

We are making in the January number of this magazine his own announcement covering the scope of his work. We believe that the treatment of architectural monuments, from the point of view of the files of the architect and engineer, will greatly increase, not only the value, but the interest of THE NEW YORK ARCHITECT.

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It would seem to be of interest in contemplating the reproductions of working drawings and the photographs of the finished New Theatre, as shown in the following pages of this issue, to go back and consider the program of the competition for the selection of an architect, which was issued on March 28, 1906, to the list of chosen competitors. The building as finally completed will be found to satisfy in almost every particular the general requirements laid down in the original program, which requirements were the result of careful and mature study on the part of the then Founders and their expert advisers. The general sizes and dimensions of the auditorium, stage, and other technical parts of the house were very naturally determined by the theatrical experts; the suggestion of the architectural solution and scheme embodying these was the part of the architectural advisers, and the competitive plans submitted were finally judged by the full jury after an exhaustive technical report had been made by the experts on the basis of their findings in a thorough examination and minute comparison of all the schemes submitted in competition.

The various schemes presented by the competitors differed very considerably in point of view and solution, and all were of a very high order of excellence, making the judgment a most difficult one. It was only after almost continuous consideration and study on the part of the jury, lasting over a period of several weeks, that a final choice was arrived at and the award made.

The entire problem has been one of tremendous difficulty in solution, very unlike anything that has been hitherto attempted in this country, and the resulting building must prove,

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THE NEW THEATRE

CARRERE & HASTINGS
ARCHITECTS

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Plans
Editorial

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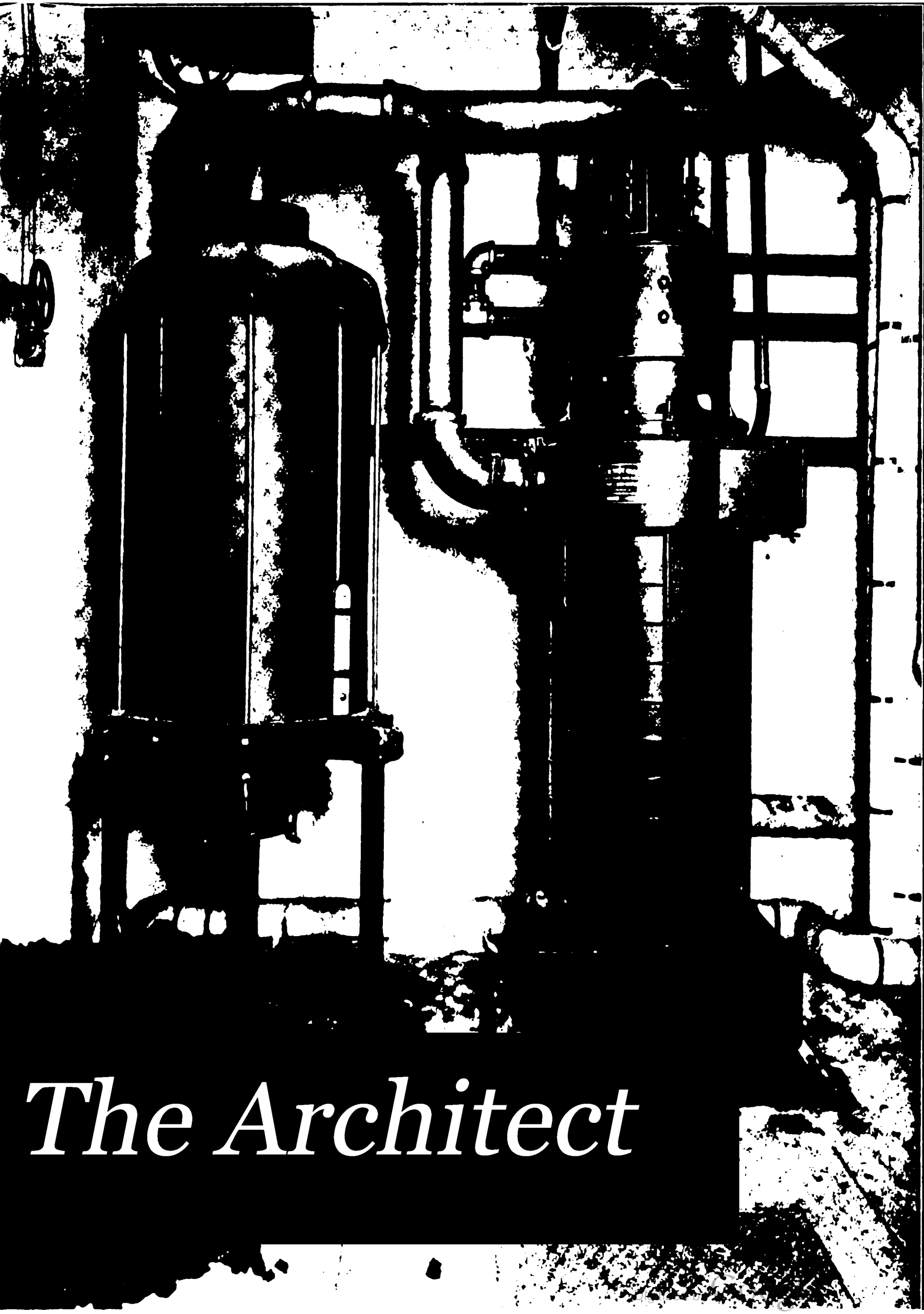

The Architect